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SATURDAY DECEMBER 26 1942

TABLE OF CONTENTS

The Science of Health JOHN A. RYLE, M.D. 745

Treatment of Superficial Tuberculous Lesions by Local Application of Promin W. H. TYTLER, M.B., and A. D. LAPP, M.D. 748

Tuberculosis Deaths and the War PERCY STOCKS, M.D. 750

Artificial Respiration at Sea G. H. GIBBENS, M.B. 751

Report on Communal Feeding E. B. GUNSON, M.D. 753

Skin Diseases in War R. T. BRAIN, M.D. 760

MEDICAL MEMORANDA

Unusual Case of Intestinal Obstruction in a Child. V. C. J. HARRIS, F.R.C.S.Ed. 754

GENERAL ARTICLES AND NEWS

HOSPITAL SERVICES AND CONTRIBUTORY SCHEMES 764
STATUS OF THE GENERAL SURGEON: Manifesto from S. Africa 764
MEDICAL DEFENCE UNION 764
V.D. AS CAUSE OF DEATH 773
MEDICINE 100 YEARS AGO 774
THE SERVICES 769
UNIVERSITIES AND COLLEGES 770
MEDICAL NOTES IN PARLIAMENT 770
MEDICAL NEWS 773

REVIEWS

Prevention of Air-borne Infection ... 755
Abnormalities of Speech 755
History of Cardiology 755
Notes on Books 755

LETTERS AND ANSWERS

Treatment for Scalp Eruption—Dressing for Breast Cancer—Income Tax—Codeine in Vaccinia—Treatment of Anxiety States 773-4

Epidemiology Section 772

LEADING ARTICLES

Influenza 756
Hours of Employment and Health ... 756

ANNOTATIONS

Gastro-intestinal Concretions 757
High Flying for Whoopers 758
Hospital Contributory and Provident Schemes 758
Chemotherapy for Tuberculosis ... 759
New Sources of Quinine 759
Wanted: British Medical Films 759

OBITUARY

Elisabeth M. Sykes, M.B. 768
I. Lloyd Tuckett, M.D. 768
J. Percival Brown, M.B. 769
Melville Hamilton, M.R.C.S. 769
J. O. Summerhayes, D.S.O., M.R.C.S. 769

SUPPLEMENT

Free Choice of Doctor and Certification. B. BUCKLEY SHARP, M.D. ... 79
National Eye Service: Ophthalmic Medical Examinations 80
H.M. FORCES APPOINTMENTS 80

CORRESPONDENCE

Shortage of Beds in Fever Hospitals. ANDREW TOPPING, M.D. 765
Treatment in Psychiatry. R. A. SANDISON, M.B. 765
Child Health. E. H. M. MILLIGAN, M.D. 765
The Dysentery Carrier. GUSTAV SINGER, M.D. 765
Sulphonamides for Gonorrhoea. C. J. YOUNG, M.B.; M. R. SONI, M.B. 766
Service Cases of V.D. on Demobilization. PHILIP SILVER, M.R.C.S. ... 766
Stilboestrol and Deep *X* Rays for Sarcomatous Metastases. G. G. BINNIE, M.B. 766
Phosphorus Poisoning from Bullet. J. W. D. BUTTERY, F.R.C.S.Ed. 767
Saline Laxatives in Dysentery, etc. W. N. LEAK, M.D. 767
Teaching First Aid. G. LAURENCE, F.R.C.S.Ed. 767
Blood Pressures after Injection of K Salts. J. A. AINSLIE and E. C. DAX, M.B. 768
Scientific Journals for Enemy Prisoners of War. J. R. BAKER, D.SC. 768

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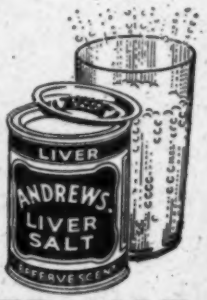

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BRITISH MEDICAL JOURNAL

LONDON SATURDAY DECEMBER 26 1942

THE SCIENCE OF HEALTH*

BY

JOHN A. RYLE, M.D.

Regius Professor of Physic in the University of Cambridge; Consulting Physician to Guy's Hospital

For my annual wartime lecture I have chosen on this occasion a subject which, curious though it may seem, finds no special place or mention in the curriculum. Medicine is primarily concerned with the observational study (with a view to its relief) of disease at the bedside, in the consulting-room or clinic, and in the laboratory. Disease also has its own science of Pathology, which is concerned with the more intimate laboratory investigation of its causes, processes, and consequences. But, notwithstanding that the study of health would seem to be the proper preliminary to the study of disease, we find no counterpart to medicine, no parallel observational science devoted to the fireside or field-side or laboratory study of health. Nor is there a science comparable to pathology which deals with the more intimate causes, processes, and consequences of health.

Hygeia, the daughter of Aesculapius, was the goddess of health, a subject in which the Greeks were intensely interested, and hygiene originally meant the science of health; in modern usage, however, it has come to convey the narrower meaning of sanitary science. Physiology and anatomy, it is true, concern themselves with some of the processes and attributes and supply some of the standards of health; but as a rule they have little to say of its outward manifestations, of what may even be called its "symptoms and signs," or of that elaborate co-ordination of functions by which it is constituted. They touch scarcely at all upon its causes and consequences.

Please do not think that I wish to extend or complicate the curriculum, but it is surely an omission that so little attention has been paid by the students of disease and their teachers to that state from which some deviation or departure must occur before the existence of disease is recognized. And so, because it has a bearing on your future tasks and outlook, I suggest that we give our minds to the subject of health and how it might be better regarded and how more usefully observed and studied. Let us begin by asking ourselves five questions: (1) What is health?; (2) Why is it important to know more about health?; (3) What are the principal symptoms and signs or other criteria of health?; (4) What are the causes and consequences of health?; and (5) How in the future can we make a better contribution to the promotion and maintenance of health?

What is Health?

There are difficulties in the matter of health as a concept. It is not at all an easy thing—less easy even than disease—to define, and most existing definitions are inadequate. My *Oxford English Dictionary* defines it as "soundness of body," my medical dictionary as "a normal condition of body and mind." The first of these is clearly insufficient. The second leaves us with the old indecision as to what we mean by normal. It is possible for a man to pass every physical and chemical test known to medicine and yet to be a very sick man—to suffer, for instance, from severe recurring bodily discomfort or continuing mental anguish. On the other hand, he may be left by disease or injury with gross physical defects, including loss of limbs, and nevertheless be abounding in vigour and surpass in efficiency and happy achievement the majority of his unscathed contemporaries. We must also allow that the criteria of health vary with age, sex, occupation, and race.

A good definition of health in the individual should convey the idea of competence to perform and enjoy the tasks and functions appropriate to his or her age and sex. It should convey the idea of well-coordinated function, of life vigorous, well balanced, and attuned to its environment. It should certainly mean something more than a state of "no disease." In the training camps for the Army there are at present gathered together many young men who have been passed as fit for military service. After a few months of training they are already an entirely altered set of men in appearance and bearing and physical efficiency and mental outlook, and they not infrequently gain half a stone or more in weight in that period. In addition thousands of men accepted for service are later found unfit to go through with their training. All these were medically examined and labelled as fit for a virile profession, but they were obviously a long way from the optimum or possible vigour and development due to their manhood and original physical endowments. They had not really achieved health.

If we go back to the *O.E.D.* and look up, not its definition but an earlier alternative for the adjective "healthy," we come, I believe, a little nearer to what we are seeking. The old adjective for healthy is "hale." From "hale" the word "whole" is also derived. "Hale," we are told, means "free from infirmity; sound; vigorous"; but "whole" has also come to convey the idea of completeness. By "the whole man" we can understand not merely the "total man" in a structural regard but man in the fullness of his functional development and integrity—that is to say, in a physiological and a psychological regard. The B.M.A. Medical Planning Commission has recently coined a much-disputed phrase—"positive health"—implying thereby something better than "no disease." It does not bear close analysis, and, if we accept the idea of health as wholeness—implying fulfilment or completeness and co-ordination of function—the prefix "positive" becomes unnecessary.

We are not, however, to infer that there is only one pattern of health or wholeness; for we know that the human species, like other domesticated species, shows a wide range of variability. Health manifestations, like disease manifestations, can vary from individual to individual. But we may insist that for each main type or variation due to race, parentage, age, and sex there can be laid down certain criteria over and above the mere absence of detectable disease which stand for wholeness or health. These criteria have still to be more precisely determined and described, for reasons which we must shortly discuss. Their description and measurement are among the tasks of the science of health.

Why is it Important to Know More about Health?

This question may be considered from the point of view of the student of medicine, the individual citizen, and the community. Unless the student of medicine (be he qualified or

* An undelivered lecture prepared for the students of the Medical Faculty, University of Cambridge.

unqualified) has a good working knowledge of health and health standards and manifestations, of the nature or physiology of what I shall describe as the "symptoms" of health and of its surface markings, he is not in a position to detect or investigate the early deviations from it. Unless, furthermore, he appreciates that most of the symptoms of disease can be explained physiologically as exaggerations or depressions of the ordinary symptoms of health he will fail to appreciate those natural gradations between healthy and morbid function which are constantly discoverable in practice, and he will tend to think vaguely in terms of "normal" and "abnormal" as though there were a sharp division between the phenomena of health and the phenomena of disease.

Dyspnoea in response to vigorous exercise is a symptom of health. Dyspnoea at rest or with trivial exertion is a symptom of disease. Flushing in a hot atmosphere is a symptom of health. It is also a symptom of fever when the internal, as opposed to the external, environment is modified by disease. Appetite is a symptom of health; poor appetite and loss of appetite are among the most significant symptoms of disease.

There is, however, quite another reason why the student of medicine should wish to know more about health. It is linked with a present and important reorientation of our professional thought. It is becoming steadily more apparent that in the future the emphasis of medicine will be increasingly upon its preventive and protective aspects, upon the social as distinct from, but supplementary to, the individual applications of accumulating knowledge. Instead of waiting to cure—or to try to cure—the individual of preventable disorders and diseases we shall endeavour to see that conditions are such that fewer and fewer individuals develop them; and, not content with those states of body and mind which can only be called "no disease," we shall encourage by every method within our power the preservation of health and the elevation, in the minds of doctors and laity alike, of the idea and the standards of health. Apart from the hundreds of thousands of people in these islands who suffer from active and diagnosable disease and are either bed-ridden or in other degrees incapacitated from full and useful citizenship, there are millions, like the recruits to whom I have referred, who might by our present rough standards be placed in category A, but who could not—while lacking signs of evident disease—be considered as really healthy or whole. Although unalterable ancestry would commonly be found to have provided initial handicaps, environmental factors (in many cases alterable), operating on body or mind, or both, would be found to have the more widespread adverse influence.

The better and earlier assessment of the lesser degrees of what we have come to call "ill-health" (really a contradiction in terms) in individuals and the community is becoming an urgent duty. The study and recognition of the causes of disease and debility, and of those states which have no name and often evoke no open complaint but which fall just short of health, have led us back at last to the recognition and the need for the better discrimination of the causes of health itself. To some of these I must shortly refer, but they are nowhere better illustrated than in the field of nutrition.

If you want illustrations of what I have in mind you have only to keep your eyes open in buses, tubes, and trains and to ask yourselves what proportion of your fellow travellers, even on a superficial and untrained inspection, would be likely to prove really healthy or whole. In mining and industrial districts and slum areas you would find the levels of fitness more conspicuously on the debit side; for here you would see at all ages a far greater proportion of stunted bodies, pale faces, and bad teeth. Here, too, on a basis of the same crowding and poverty, tuberculosis, rheumatic fever, and diphtheria find the opportunity which they are ceasing to find in kindlier social climates. Briefly we may say—and none could dispute us—that health or wholeness is far too rare, that the standards of health which we have allowed to pass are far too low, and that many of the causes of this state of affairs are now apparent and are to be found in defects of environment, of education (both mental and physical), and of rest, recreation, ventilation, and nutrition. As the doctors of the future you must begin to think how this situation can be remedied. By demonstration of what can, in fact, be quickly achieved, as through the provision of better conditions for two sections of the community only—the elementary-school child in peacetime and the recruit in wartime—the people as a whole must eventually be persuaded of the possibility of the real health that is their due. What they ought to possess and its importance in a national regard have long been recognized, as witness the old adage, *Salus populi suprema est lex*, or Disraeli's insistence that "the health of the people is really the foundation upon which their happiness and all their powers as a State depend."

The health of the people has been greatly served, let us admit, by a number of epoch-making discoveries, by numerous public health measures, by political and economic changes and (except in the matter of war-proneness) by the general upward trend of our civilization. Curative medicine and surgery have also played no inconsiderable part. In future the preservation and wider distribution of health in the community, based upon a better understanding of its causes and not only on a knowledge of the causes of disease, will make contributions as remarkable as any of these.

But if we are to control health we must know how to diagnose it and we must further elucidate its causes. It is by such means that we have learned to control disease. Pathology has provided the basis of much physiology. Similarly clinical study can point the way to the study of health, for clinical training provides the right methods and encourages the right aptitudes, although it has not always led as promptly as it might have done to the right inferences and actions.

The Symptoms and Signs of Health

We all know vaguely what we mean when we say that we "feel fit." The top-of-the-world feeling at the height of a good holiday; the keen appetite and good digestion and regularly acting bowel; the pleasing muscular aptitudes; the tingle of bare skin in sun or wind and its free response to changes of temperature and to exertion; the pleasant sense of muscular fatigue at the day's end (so different from city weariness); the even temper; the gay spirit and the ready laughter—all these are symptoms of health. In youth many of them are experienced apart from holidays. The older we become and the more occupied with affairs and cares and sedentary occupations, the less fully aware are we of all these pleasant sensory phenomena and the more surely does it require a long holiday in good surroundings to recall them. As the mode of our lives becomes less wholesome we become, indeed, less whole. We may well wonder whether the working men or women in the poor streets of our crowded cities, whose holidays seldom if ever run to a week and whose incomes rarely allow of rest and refreshment in the country or at the seaside, have ever enjoyed what most of us here have enjoyed of true health or wholeness.

Now, just as loss of appetite, irregular bowels, undue fatigue, poor sleep, greasy or dry skins, ruffled tempers, and low spirits—not to mention more definite aches and pains or depression, dyspnoea, or dizziness—have their diagnostic significance and physiological interpretation, so too have the subjective phenomena of health their diagnostic significance and physiological interpretation. Their more intimate meanings have not in most instances been fully worked out as yet, for bodily and mental sensitivities are still more delicate than our chemical and physical tests. Professor Adrian has not tapped or taped them all with his electro-encephalogram, or taught us how to amplify them with his loud-speaker for purposes of demonstration or analysis. But this does not mean that they cannot in the meantime be usefully studied by observational and descriptive methods and elucidated by inference and comparison; or that their causes cannot be sought as physicians have long sought, by patient watching and record, the causes of their counterparts—the symptoms of disease. Their study is naturally helped by parallel observations on the objective manifestations or "signs" of health. The fresh colour and fine texture of the skin, the crispness and lustre of the hair, the good teeth, the sweet breath, the upright and graceful carriage, the firm limbs, the easy breathing, the frank manner, the free movements on the track or the tennis court or in the swimming-pool—all these are among the eloquent signs of health in youth. In the child we see the softer skin and other sprightliness of movement, other gaieties, the skipping progress of the small girl home-coming from school; in the infant the firm roll of fat at the wrist, the contentment, the absence of crying (except

under the compulsion of hunger or a passing pain), the earnest attempts at crawling, standing, or walking, the lovely postures of sleep; and in the old—even though movements now be slow and memory less quick and laughter a less boisterous affair—we sometimes witness the silver locks and rosy porcelain skins and a serenity of mind which are the true manifestations of health in age.

And when as physicians we have occasion to make our routine examinations at these various ages we learn that there are behaviours in respect of body-weight and build and growth and sleep and bowel and bladder function, of menstruation, of pulse rate and blood pressure and haemoglobin percentage, which are appropriate and natural and may be counted among the measurable criteria of health. Or we may detect departures from them which give us pause or, may be, lead our inquiries to the discovery of incipient or established disease.

Why should you not begin your training in the observation of these things now? Why should you not seek for physiological explanations of the familiar symptoms and signs consistent with well-being or its borderland states, that you may the better recognize those of more patent disorder or disease when they begin to come your way? Appetite, hunger, satiety, laughter, blushing, hiccups, yawning, sneezing—here are familiar symptoms ready to hand and inviting your inquiry. I suggest that you try and write a full description of any one of them to-morrow. I should like one day to see some good cinematographic illustrations of man's strange convulsive phenomena—of laughter, sneezing, and hiccups—and to study them in slow motion. The better you can describe and explain these events, the better, later on, will you describe and understand fits and flatulence, nausea, vomiting, and vertigo when you take up your work in the clinic. There, although it is common—too common—to account as "interesting cases" only those of the more rare or advanced diseases, it should really be our first pride and purpose—remembering the features and phenomena of health—to detect the earliest departures from it, to recognize morbid conditions when they are more susceptible of arrest or cure, to be more familiar with those multitudinous shades and varieties of unfitness which might have been altogether avoided. For the physician with a naturalist's eye, moreover, the study of all these phenomena of life, whether healthy or morbid, can come to have a fascination of its own, and quite apart from special uses.

The Causes and Consequences of Health

The causes of health, like those of disease, are to be found in ancestry and environment. In nature (which we will assume to mean in all wild species living under conditions unmodified by man) the survival of the more robust and adaptable breeds and individuals, together with natural activity, results in the maintenance of a high and even curve of health. The unfit do not long survive, and, whether in a nest of ants, a flight of swallows, a school of porpoises, or a herd of deer, it is unlikely that the most skilled clinical survey would reveal anything like the variability in body-form, weight, colouring, vigour, and other criteria that such a survey would reveal, shall we say, in domesticated cattle or a native tribe. In a so-called civilized community the variability is far greater, and deviations from the mean in respect of stature, colouring, and health, and even the unlovely features of declared disease, are all more frequent and more apparent. Variation under domestication was, as you know, one of Darwin's special studies. Man has constantly increased his variability as well as that of his domestic animals. His animals he has bred for new types, for quality, and for quantity. By his own modes of living and social organization, however, he has produced many deviations from health, and by his self-protective measures he has made it possible for the unfit to survive in large numbers, whether their unfitness has been due to genetic or environmental factors, or to both. He has both bred morbidity and preserved it. And now he is seeking the answers to his mismanagement.

Students of eugenics (which has been defined as "the study of agencies under social control that may improve or impair the racial qualities of future generations either physically or mentally") formerly applied themselves especially to those hereditary influences which are accounted inimical or favourable to man. To-day they are more alive to the importance of environmental influences and to the fact that these are also more controllable. Medicine and preventive medicine and other forms of social service, together with physical training and education, are among the agencies whereby we have sought to keep individuals and communities in health. It is clear that we cannot at present influence national health to any great extent by applications of genetics. We cannot adopt the methods of the stock-breeder with his flocks and herds. Such is our respect for the liberty of the individual—and, I might add, our disrespect for the race—that we cannot yet control, by segregation or sterilization, the excessive fertility of village half-wits who perpetuate their kind with multiple illegitimate births. We cannot at present even do much towards encouraging the general fertility of the fit and discouraging the general fertility of the unfit. Economic and other insecurities have tended to the serious artificial limitation of families on the part of those most worthy to rear them.

There are, however, a number of things that could be done to ensure and assist the health of the people by modification of their actions and habits, their nutrition, and their environment. Better food, better education in the purchase and preparation of foods, better general and technical and sex education, better wages, better housing, social insurance, holidays with pay, opportunities for games and recreation, the provision of every advantage which infantile and child health and growth require—these are possible things. These are themselves among the more important causes of health. And in the schools and the universities, in the Services and the training camps there should be ample opportunities for the more intimate study and measurement and cultivation of health, and for physiological experiments in health regulation and control. The study of growth in childhood and adolescence and of the relative influences here of nature and nurture awaits a full inquiry.

You will rightly comment that the social reorganization needed to provide the adequate causes of health is not within the immediate province of science or the doctor. It is not my purpose here to go outside that province except to remind you that it is upon the wise application of science to human problems that some of our greatest human and social advances have been and must in future be based. The more carefully you use your eyes and other sense-organs, the more accurately you collect and correct your data, the more factual arguments you can assemble to show that health or wholeness is something better than "no disease," that its symptoms and signs and measurements are this and that and its causes or antagonists such and such, the more incumbent will it be upon peoples and their Governments to ensure that the lessons of your science are eventually and effectively applied. They took the advice of doctors about infectious disease as it were but yesterday. To-morrow they will take it about nutrition and housing and working hours, and that degree of security of prospect without which it is impossible to maintain full sanity of mind and soundness of body.

Of the consequences of health need we say more than that it paves the way for happiness and performance and makes for more effective individual and national life and labour, and so helps production and prosperity and provides, in fact, a nation's best economy? How much fitter our recruits would have been, how much less striking the contrast in stature between many of our home troops and their cousins from overseas, and by how much our war output might have been increased in these war years, if we had attended to health as assiduously as we have attended to wealth in the pre-war years! And what a nation we could become again if we would but accept and act upon the fundamental principle that, for the individual and the community, health of body and mind and the things that secure them are the most important of all economies and the surest shield against adversity and discontent and conflict! To quote Disraeli once again, "The health of the people is really the foundation upon which their happiness and all their powers as a State depend."

The Future

If the human world can be saved from its most immediate enemies and dangers, the future, or an important part of it, will be in your hands. To its better building you must direct your science and your humanism, and you must see that these two forces work in the closest partnership. The word "doctor"

means "a teacher," although in this country it has also come to have the more special meaning of "healer." One of the functions of doctors is to contribute of their knowledge and experience to the development of a healthier and happier state and to the education not only of the people but of the people's leaders. I would urge that your science and your humanism must come to serve the State in fuller measure than the science and humanism of the older generations have done.

Will you accept, therefore, that you are going out into the world in a few years' time not only to cure and palliate disease but—true to your title of doctors—to teach health and the causes of health and the necessary provisions for health, remembering always that this teaching must first find a firm basis in the science of health? Towards all this your present studies provide an important introductory discipline—but only a partial one, for the emphasis of teaching is often in the wrong place, and the co-ordination of your many subjects is not yet what it might be. In much the same way it may be urged that our existing medical services often apply the emphasis in the wrong place and lack the co-ordination we would one day like to give to them. And so will you in your generation also help us in ours to bring health or wholeness to our educational systems and to those collaborations of social and individual medicine with which it will one day be your privilege and responsibility to serve the people of this and other countries?

Last of all, for I have not yet mentioned your very proper duty to yourselves, remember that the doctor who has poor opportunities or a scant regard for his personal health—which above all other blessings should bring balance to his life and judgment to his work—can scarcely become the most respected and effective teacher.

TREATMENT OF SUPERFICIAL TUBERCULOUS LESIONS BY LOCAL APPLICATION OF PROMIN*

BY

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The results obtained by Feldman, Hinshaw, and Moses (1940, 1941, 1942) in the treatment of experimental tuberculosis in guinea-pigs by promin (sodium salt of *p,p'*-diaminodiphenylsulphone - N , N'- di - [dextrose sulphonate]) have aroused great interest both in America and in this country. Not only did the drug, given daily by mouth, prevent or limit the development of disease, in animals inoculated with a virulent bacillary strain, when treatment was begun on the day of infection, but even when it was delayed for six weeks thereafter the effect was pronounced, and in some animals no tuberculous lesions were found at necropsy 192 days after inoculation. Feldman, Mann, and Hinshaw (1942) have now repeated the experiments, but have proved by biopsy the presence of microscopic tuberculous lesions in the livers of the animals when treatment was started, six weeks after infection ; and again several treated animals showed no lesions at necropsy, at 224 days. While some factors involved in these results require further discussion, they appear to be the most impressive yet reported in the chemotherapy of tuberculosis in the guinea-pig.

The guinea-pig tolerates a daily dosage, by mouth, of 300 to 400 mg. over long periods. In man, unfortunately, much lower dosage relative to weight may soon produce toxic effects, particularly haemolytic anaemia. Trial treatment of pulmonary tuberculosis has been fairly extensive, though published results are yet scanty. But, from wide informal discussion, it appears that outstanding success has not been attained with any dosage which is well tolerated.

One of us (W. H. T.) has had in hand for some seven months a guinea-pig experiment similar to those of Feldman, Hinshaw, and Moses, with comparable results, so far as they are yet apparent. The very evident effect of the drug in this experiment suggested that it might be exploited in the treatment of accessible non-pulmonary lesions, to which effective concentrations might be applied locally without producing a toxic blood level. After treatment of this type had begun, we learned that in America promin has been applied locally by spray or inhalation in some cases of laryngeal or tracheo-bronchial tuberculosis, with good results. More recently we have heard, by personal communication, that Dr. G. T. Allerton of Torquay has been applying the drug to superficial lesions with much success.

Method

The high solubility and rapid absorption of promin indicated that the maintenance of an effective concentration in the lesion might require frequent application of strong solutions unless the drug were incorporated in a medium which would limit diffusion. The medium first tried was tragacanth, which at relatively low concentrations gives a stiff insoluble jelly ; and this medium has proved so satisfactory that no extensive trial has been made of others. One preparation of promin and tragacanth in glycerin was made, in the hope that the gum, by absorbing water in the lesion, might produce a stiffer gel than could be injected, but the preparation in itself proved difficult to handle and to inject. The use of tragacanth, however, makes sterilization difficult. Promin in 40% solution may be autoclaved at 120° C., and if cooled slowly remains in solution, particularly if 5% glucose has been added. If the solution is cooled rapidly, or with weaker solutions in any case, precipitation occurs, though solutions of 1% or less only become hazy. But, owing to the insoluble nature of the tragacanth gel, and to the stiffness required, it is not practicable to sterilize the gel separately and then add the necessary promin in sterile form. For the lesions so far treated, therefore, we have not attempted sterilization, but have relied on the bacteriostatic effect of the drug, which is considerable at the strength used. For injection into closed serous or similar cavities, however, it would be desirable to develop some method of sterilization which would exclude the presence of viable spores, particularly those of *Cl. tetani*.

In the preparation of a smooth jelly the most important step is the rapid dispersion of the tragacanth powder throughout the aqueous solution, before swelling and lump formation occur. The promin solution, in a beaker, is stirred mechanically by a rapidly rotating propeller blade, and the tragacanth is dusted in directly over the blade. The jelly is then smoothed out by sucking in and expelling through the bare nozzle of a large syringe, and finally by expelling through an attached needle (18 S.W.G.). Two different batches of tragacanth have given satisfactory gels at 3.5% and 3.0% respectively, the stiffness being such that considerable pressure is required to force it through the needle. In use the jelly is either sucked into the syringe through the bare nozzle, or may be filled into the open barrel, and injected either through the needle or, for sinuses, through a fine catheter tied to the nozzle. The first jelly contained 5% promin, which caused no irritation, and was increased to 10% and then 20%. The latter caused increase of exudation, and though the end-results were good we have now gone back to 5% as giving equally satisfactory results.

At the time of writing 10 cases have been treated in Glan Ely Hospital, Cardiff, of which notes are given below. So far, only such lesions have been selected as were easily accessible either to aspiration and injection or to instillation into open sinuses.

Case Notes: Closed Abscesses

Case 1.—Man aged 25. June 13, 1942: Admitted Glan Ely Hospital. Pulmonary tuberculosis, caries dorsal spine. Abscess pointing in lumbar region ; 170 c.cm. pus aspirated ; 5 c.cm.

* The drug has been developed by Messrs. Parke, Davis and Co. Ltd. in America, where the name "promin" was given to it; but in this country, owing to difficulties in registration, it will be known as "promanide." It will, however, be referred to in the article as "promin."

promin (5%) in glycerin injected. Repeated nine times to July 17; about 40 c.cm. pus each time. Aug. 4: 140 c.cm. pus aspirated; 5 c.cm. P. jelly (10%) injected. Sept. 18: 42 c.cm. pus aspirated; 8 c.cm. P. jelly (20%) injected. No further aspiration necessary. *Laboratory Report.*—May 12, 1942: Pus; acid-fast bacilli found after concentration. Culture yields growth of human type T.B. No other organisms in film or blood-plate culture.

Case 2.—Man aged 37. June, 1941: Admitted Glan Ely Hospital. Advanced pulmonary tuberculosis. Fair progress to June, 1942, when red swelling appeared in midline above sternum, and another in right axilla, both fluctuant. June 23: Neck abscess; 4 c.cm. pus aspirated; 2 c.cm. P. jelly (5%) injected. June 25: Repeated. June 28: Abscess broke down, and healed completely in a few days. July 2: Axillary abscess; 14 c.cm. pus aspirated; 4 c.cm. P. jelly (5%) injected. July 6: 22 c.cm. pus; 4 c.cm. P. jelly (5%) injected. Abscess did not refill. Sept.: Abscess formed over middle of sternum. Aspirated three times at three-day intervals; each time 3 c.cm. pus: 2 c.cm. P. jelly (10%) injected. A few days later the abscess broke down, and then healed rapidly. Nov.: General condition improved; no further abscesses. *Laboratory Report.*—June 23, 1942: Pus; acid-fast bacilli in film. Culture yields growth of human type T.B. No other organisms in film or blood-plate culture.

Case 3.—Man aged 33. Sept., 1941: Pain in back. April, 1942: Dorsal swelling; pus aspirated in hospital. July 7: Admitted Glan Ely Hospital. Radiograph showed caries D.V. 12 and L.V. 1. Large abscess lower dorsal region; aspirated. July 20: 3 c.cm. P. jelly (5%) injected. July 23: 3 c.cm. (5%). Aug. 26: 14 c.cm. (20%). Aug. 30: 9 c.cm. (10%). Sept. 3: 8 c.cm. (10%). Sept. 8: 5 c.cm. (10%). Sept. 18: 5 c.cm. (10%). Nov.: Abscess remains flat since last treatment.

Case 4.—Man aged 34. 1931: Tuberculous left testicle removed. Discharging sinus from right testicle for four or five years. Dec., 1938: Pain in back. Aug., 1939: Radiograph showed caries D.V. 11. Sent home on plaster bed. July 2, 1942: Readmitted Glan Ely Hospital for observation. Nervous disturbance, diagnosed functional. Aug.: Up. Sept. 5: Abscess lumbar region; aspirated, no pus obtained; 2 c.cm. P. jelly (20%) injected. Sept. 11: Fluctuant, 4 c.cm. thick pus aspirated; 3 c.cm. P. jelly (20%) injected; abscess gradually became non-fluctuant. Nov.: Only small hard area remains. *Laboratory Report.*—Aug. 11, 1942: Urine—pus, but no acid-fast bacilli in film. Culture yields growth of human type T.B.

Case 5.—Man aged 41. June 11, 1942: Admitted Glan Ely Hospital. Suspected tuberculous spine. Diagnosed probable new growth, belied by steady clinical improvement. Oct. 16: Abscess lumbar region; 35 c.cm. creamy pus aspirated; 5 c.cm. P. jelly (5%) injected. Abscess disappeared fairly rapidly. No further aspiration necessary or possible. *Laboratory Report.*—Oct. 16, 1942: Pus; no acid-fast bacilli after concentration. Culture for T.B. negative so far (21 days). Film shows cocci. Blood-plate culture gives pure growth *Staph. aureus.*

Open Sinuses

Case 6.—Man aged 31. Nov., 1940: Injury to back; pain ever since. July, 1941: Lumbar abscess. Nov. 15: Admitted Glan Ely Hospital. Caries lumbar spine, sinus lumbar region, persistent to July, 1942. July 7: 1 c.cm. P. jelly (5%) instilled by catheter; continued daily to Sept. 1, when sinus was too small to retain jelly. Nov.: Still a superficial remnant; small discharge. *Laboratory Report.*—July 11, 1941: Pus; acid-fast bacilli in film. Culture yields growth of human type T.B. No other organisms in film or blood-plate culture.

Case 7.—Man aged 28. Jan., 1941: Abdominal pain; fever. Feb. 28: Laparotomy; tuberculous peritonitis. Aug. 10: Persistent sinus in laparotomy wound, no progress. Feb. 2, 1942: Admitted Glan Ely Hospital. Faecal fistula, which closed but left persistent sinus. July 17: No fistula; sinus remains; 1 c.cm. P. jelly (5%) instilled by catheter daily to Sept. 1, when sinus was dry. Nov.: Healed scar, firm and healthy.

Case 8.—Man aged 31. June, 1941: Swelling left loin. July: Opened in hospital. Nov.: Radiograph showed caries of lumbar spine. Feb. 19, 1942: Admitted Glan Ely Hospital. Sinus discharging thick foul pus, continuing to July. July 17: 5 c.cm. P. (5%) in glycerin instilled to bottom of sinus; continued daily. P. jelly (20%) used for three weeks, continued to present; now using 5%. Discharge at first increased and thinner; later decreased. Nov., 1942: Sinus still open, but much shallower, with little discharge. *Laboratory Report.*—July, 1941: History states pus reported sterile.

Case 9.—Man aged 22. Treated in Glan Ely Hospital, Oct. 15, 1936, to July 7, 1937, for caries of lumbar spine. Discharged quiescent. Worked to Jan., 1942, when he fell and injured back. May 25: Readmitted Glan Ely Hospital; abscess pointing in right groin; repeated aspirations. Aug.: Sinus formed. Aug. 30: 5 c.cm. P. jelly (5%) instilled to bottom of sinus; since then, 3 or 4 c.cm. 20% every four days. Nov.: Sinus very shallow; no pus. Treatment continues. *Laboratory Report.*—May 28, 1942: Pus; acid-fast bacilli after concentration. Culture yields growth of human type T.B. Film shows some Gram-negative bacilli, but blood-plate culture sterile.

Case 10.—Man aged 23. April, 1941: Doubtful history of pain in back. Nov.: Swelling left groin, opened in hospital. May 21, 1942: Admitted Glan Ely Hospital; discharging sinus; radiograph showed caries L.V. 4 and 5. Sept. 8: Abscess pointing over right ilium; aspirated every three or four days, and 5 c.cm. P. jelly (20%) injected. Sept. 29: Abscess broke down; catheter passed into sinus 16 in. deep; 5 c.cm. P. jelly (5%) instilled to bottom, continued daily to present. Nov.: Discharge less, and thinner. Sinus about 6 in. deep. The first injections into closed abscess did not reach beyond superficial part of the large cavity.

Three other cases of cervical adenitis with abscess formation were treated, but as the lesions were opened and scraped shortly afterwards the results are without significance.

Discussion

With the exception of Case 5 all the lesions treated were considered on clinical grounds as undoubtedly tuberculous. In 4 cases tubercle bacilli were demonstrated by film and culture, and in a further case, No. 4, in culture from the urine. All cultures were human type. In the two closed abscesses, and in one of the two sinuses, in which tubercle bacilli were demonstrated, there was no secondary infection at the time of examination. In the other sinus Gram-negative bacilli were seen in film but did not grow in culture.

While the results were somewhat irregular the clinical opinion is that the improvement in all was greater or more rapid than would have been expected by orthodox methods applicable. In Case 2 the results were spectacular, in that three different abscesses each healed completely within two weeks of starting treatment, leaving only small fibrous residues.

In two cases, each on one occasion, there was a rise of temperature on the day after treatment, probably depending on disturbance of large abscesses. Apart from these isolated events nothing that could be interpreted as a toxic effect was seen.

It is thought that these results justify a more extensive trial of the drug by local application to suitable lesions, and possibly to more deep-seated lesions which can be injected. At present we are turning our attention particularly to cervical glands in which softening has occurred. These lesions can be treated by injection in the dispensaries, and it is hoped in this way to obviate the need for operative measures, often involving a long wait for admission to hospital, with prejudice to the patient and the occupation of valuable bed-space when admitted.

We wish to express our gratitude to the manufacturers for liberal supplies of the drug, and to their medical representative, Dr. J. Stanley White, for much assistance and information. We also acknowledge gratefully our obligation to Dr. A. Brownlee, medical superintendent of Glan Ely Hospital, for permission to carry out the investigation in that hospital.

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Those who claim that they derive valuable information about the heart from the quality of its sounds may find some graphic support in the vibrocardiograms of Kountz and Smith (*Southern med. J.*, 1942, **35**, 713). Using a special microphone actuating a cathode ray, they record all sound vibrations between 1 and 500 cycles per second generated by the heart. Certain features of the graph so produced appear to change in quality in patients with "myocardial disease." It is impossible to evaluate the results because clinical details are entirely lacking. However, the method deserves attention, for the quality of the heart sounds and its relation to disease is still a vexed question, and if it can be settled by graphic means it will be helpful.

TUBERCULOSIS DEATHS AND THE WAR

BY

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Tuberculosis mortality has been described as a social barometer, and this it is in more than one sense. The actively tuberculous population, numbering somewhere about a quarter of a million persons, is very sensitive to environmental changes such as periods of unusually cold weather, industrial depression, increased crowding due to various causes, shortage of certain foods, enhanced stress of living conditions produced by war, and even, it seems likely, to psychological stresses affecting large bodies of people. The immediate effects of cold winters and influenza epidemics, for example, are reflected in the deaths from respiratory tuberculosis occurring in the March quarters, which are given below for England and Wales in the period 1924-38:

1924 .. **9,690**	1929 .. **10,140**	1934 .. 7,429
1925 .. 9,126	1930 .. 8,227	1935 .. 6,947
1926 .. 8,517	1931 .. **9,018**	1936 .. 6,892
1927 .. **9,240**	1932 .. 8,244	1937 .. **7,147**
1928 .. 8,444	1933 .. **8,912**	1938 .. 6,004

The bold figures indicate levels higher than in either the preceding or succeeding year, and, of the six quarters in which they occurred, those of 1924, 1929, and 1931 were unusually cold, while those of 1927, 1929, 1933, and 1937 had rather severe influenza epidemics. The tuberculous have not the normal reserves of strength to meet additional stresses and strains, and they react very quickly by a rise in death rate. If the increase in deaths is considerable or if it is long continued and not accompanied by a corresponding rise in incidence of new cases, the reservoir of persons in an advanced stage of the disease may be thereby so much reduced in numbers that a rapid fall in deaths at once follows when the stresses are removed. This probably accounts for the rise and fall in deaths from respiratory tuberculosis noticed at the beginning of wars, though it does not account for the increase in deaths from tuberculous meningitis which also appeared early in the present war.

In another sense tuberculosis deaths are an index of social conditions because if changes in the latter are such as to increase the incidence of active disease this is inevitably followed by a rise in death rates, and in so far as the new infections are of the meninges and nervous system this increase becomes quickly evident. In the case of new respiratory disease, however, the effect on deaths may be so long delayed as to appear as a secondary wave after the initial wave referred to above has almost passed. In the present war, so far, we have experienced the initial wave due to hastened deaths of the already tuberculous, and, starting rather later, a wave due to fresh meningitic infections. It will be seen below that each of these waves reached a peak in 1941 and that a rapid fall towards the normal has since been registered in the first half of 1942; but a resumption of harder conditions may yet produce further temporary increases of the same kind. Furthermore, the reservoir of tuberculous persons is probably greater now than at the onset of the war owing to increased incidence of active disease in 1940 and 1941, and if that is so a return to the normal peacetime trend of deaths is likely to be delayed.

For a long period preceding 1939 we had become accustomed to a continuous decline in tuberculosis deaths, and it is necessary to bear this in mind when estimating the effects of the war. When deaths have merely returned to the 1938 level this will not mean that the debt has been paid, because had there been no war there is no reason why the steady decline should not have progressed, bringing 1942 deaths much below the 1938 level. In order to obtain a proper base level of peacetime expectation it is reasonable to assume that the rate of proportional annual decline experienced during the pre-war period would have continued year by year. The figures below designated as "expected" are based on that assumption, but they are necessarily only approximate owing to the impossibility of taking into account at this stage any changes in the population at risk which may have been occasioned by the war. It must suffice to say that the deaths here recorded comprise all deaths in England and Wales, whether of civilians or of non-civilians.

Respiratory Tuberculosis

The average numbers of deaths from respiratory tuberculosis, classified according to the method of assignment in use up to 1939 and occurring in the first and second halves of the year, in triennial periods from 1924–6 to 1936–8 were as follows:

Period	First Half of Year		Second Half of Year	
	Average Deaths Occurring	Fall from Previous Period (%)	Average Deaths Occurring	Fall from Previous Period (%)
1924–6	17,299		14,458	
1927–9	17,102	– 1·1	13,662	– 5·5
1930–2	15,866	– 7·2	13,041	– 4·5
1933–5	14,357	– 9·5	11,690	– 10·4
1936–8	12,578	– 12·4	10,618	– 9·2

Between 1931 and 1939 the population was increasing by about 1.5% every 3 years, so, adding this to the average percentage increase in deaths in the last two triennial intervals, it is evident that the crude death rates must have been falling by about 4% annually during the immediate pre-war period. Assuming no substantial changes in the population at risk since, a continuance of a 4% fall annually in the deaths was to be expected if there had been no war, and the actual and expected deaths up to mid-1942, classified throughout according to the revised International List and method of assignment in force from 1940, may be compared, as below:

Years	First Half			Second Half		
	Expected	Registered	Excess	Expected	Registered	Excess
1936–8*	—	12,199	—	—	10,305	—
1939	11,243	11,859	+ 616	9,497	9,683	+ 186
1940	10,793	13,322	+2,529	9,117	10,338	+1,221
1941	10,361	13,504	+3,143	8,752	10,129	+1,377
1942	9,947	11,828	+1,881	8,402	—	

* Average.

The first half of 1939 registered a substantial excess over the expected figure and also over the first half of 1938, when the deaths numbered 11,412. This cannot be explained by a cold winter or by influenza, but whether it had anything to do with the depression and anxieties of the post-Munich period is a matter for conjecture. The increase over 1938 was almost confined to males between 40 and 70 and females aged 30 to 34. Leaving 1939 out of account, the excess of deaths over expectation in 1940 totalled 3,750, in 1941 about 4,500, and in the first half of 1942 about 1,900, giving an aggregate excess up to June, 1942, of some 10,000 deaths. Part of the excess in the first halves of 1940 and 1941 was probably due to the exceptionally cold winters of those years; but they differed from 1929 in having no appreciable influenza epidemic, and it seems unlikely that more than 2,000 of the excess in the two years can have been caused by the climatic conditions. It may be estimated, therefore, that a total excess of some 8,000 deaths is attributable, so far, to the war. The first half of 1942 showed pronounced improvement over the two preceding years, the number of deaths returning to the 1939 level, though still some 1,900 above the number which would have been reached if the pre-war rate of decline had continued.

The increase was relatively greatest among children under 15, at which ages the deaths are few in number. Other age groups specially affected were men of 35 to 44 and women of 20 to 24. The improvement in the first half of 1942 was apparent in every group, and particularly among females of 15 to 19 and 35 to 44.

Tuberculosis of Meninges and Central Nervous System

The trend of deaths during the 1924–38 period is indicated by the figures below:

Period	First Half of Year		Second Half of Year	
	Average Deaths Occurring	Fall from Previous Period (%)	Average Deaths Occurring	Fall from Previous Period (%)
1924–6	1,708		1,282	
1927–9	1,535	−10·1	1,128	−12·0
1930–2	1,420	− 7·5	1,074	− 4·8
1933–5	1,189	−16·3	860	−19·9
1936–8	1,029	−13·5	746	−13·3

Allowing for the population increase as before, a rate of fall of at least 5% annually was to be expected, leading to the following comparison with the actual deaths registered:

Years	First Half			Second Half		
	Expected	Registered	Excess or Defect	Expected	Registered	Excess or Defect
1936–8*	—	1,062†	—	—	770†	—
1939	959†	969†	+ 10	695†	715†	+ 20
1940	911	1,047	+136	660	839	+179
1941	865	1,422	+557	627	944	+317
1942	822	1,169	+347	596	—	—

* Average. † Classified according to method used from 1940 onwards.

The increase in deaths from this form of tuberculosis began in 1940 and reached its maximum in the first half of 1941 with an excess over expectation of about 550, the excess then falling to about 350 in the first half of 1942. The total excess of deaths probably attributable to war conditions up to June, 1942, was over 1,500.

The sex–age distribution shows that while every group was affected, males aged 20 to 24, children under 10, and young adult females registered the highest relative increases. The improvement in the first half of 1942 was limited to children, males aged 20 to 24, and young adult females, other groups showing further increases.

Tuberculosis of Other Sites

To complete the picture, the trend of deaths in the pre-war period for all other forms of tuberculosis led to an expectation of an annual fall of about 6%, the numbers of deaths being as follows:

Period	First Half of Year		Second Half of Year	
	Average Deaths Occurring	Change from Previous Period (%)	Average Deaths Occurring	Change from Previous Period (%)
1924–6	2,659		2,304	
1927–9	2,233	−16·0	1,938	−15·9
1930–2	2,013	− 9·9	1,659	−14·4
1933–5	1,670	−17·0	1,349	−18·7
1936–8	1,394	−16·5	1,211	−10·2

	Expected	Registered	Excess	Expected	Registered	Excess
1936–8*	—	1,377†	—	—	1,207†	—
1939	1,216†	1,303†	+ 87	1,067†	1,094†	+ 27
1940	1,143	1,410	+267	1,003	1,188	+185
1941	1,075	1,452	+377	943	1,218	+275
1942	1,010	1,412	+402	886	—	—

* Average. † Classified according to method used from 1940 onwards.

An increase in deaths was again evident early in the war, and the excess over expectation has increased progressively, although the number of deaths fell slightly in the first half of 1942. The total excess from 1940 to June, 1942, probably attributable to war conditions was about 1,500 deaths.

For all forms of tuberculosis the cost of the war up to mid-1942 may thus be estimated as about 11,000 deaths, and the initial waves of respiratory and meningeal tuberculosis deaths seem now to be rapidly declining. But the improvement which was to be expected from the normal downward trend of the pre-war period has yet to be overtaken, and a secondary, perhaps more lasting, wave may yet appear as a delayed result of the increased incidence in active disease of the respiratory form which is believed to have occurred in 1940–1.

ARTIFICIAL RESPIRATION AT SEA

BY

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In England we are apt to think that nobody questions the supremacy of the method of artificial respiration introduced by Sir Edward Sharpey-Schafer in 1904. Yet Silvester's method is preferred in Eastern Europe and in Nordic countries, and even in an official British publication (see Refs.) Cordier writes: "All experimenters agree that Silvester's method introduces in the respiratory tract of the apparently dead subject the biggest volume of air." The figures of lung ventilation by these two methods (Table I) are, to say the least, inconclusive, and the almost ideological frenzy in the attacks of the opposing advocates leaves the impression that it is the nationality of the promoter which determines the choice of method.

TABLE I.—*Lung Ventilation in c.cm.*

Method	Schafer (1908) Burton-Opitz (1922)	Cordier	Killick and Eve (1933)	Liljestrand et al. (1913)	Bruns (1927, 1930)
Silvester's	175	200–250	200	190	200–280
Schafer's	500	100–150	350–550	under 30	under 30

But the subject is not academic: it is urgently practical. Many otherwise uninjured men are rescued after only a short immersion and yet do not survive. This is undoubtedly because the normal methods of artificial respiration are not very efficient, need many skilled men, and are so tiring that they are not carried out thoroughly or for long enough. It was a relief to read of Eve's rocking method, which can be practised by unskilled men, efficiently and with little fatigue. Unfortunately, the impression has been created that this method requires special apparatus and is not suitable for emergencies outside hospitals. It does not seem to have become widely known. Killick and Eve (1933) have given detailed figures which show the rocking stretcher's superiority over other methods, and it is eminently practicable at sea. It is the object of this article to emphasize the simplicity of the method and to urge its adoption in ships.

Principle of Artificial Respiration by Rocking

In 1932 Eve wrote: "Formerly I regarded the breathing thorax as a concertina bellows; my present work suggests that it resembles rather a cylinder and piston. In older men the cylinder wall is often rigid and is scarcely used in respiration at rest. Hence in artificial respiration it seems much better to exploit the piston action of the diaphragm rather than to try to compress the rigid walls of the cylinder—leaving the piston flapping passively up and down and thus frustrating much of one's efforts to squeeze air in and out of the trachea." Essentially the method consists in laying the patient on a stretcher, which is pivoted about the middle on a trestle, and rocking up and down rhythmically so that the abdominal viscera push the flaccid diaphragm alternately up and down.

Apparatus

Simple apparatus is required. Although Keevil (1934) extemporized successfully, there is little time for invention when a drowning man is on deck. (Scott (1941) quotes Canadian statistics which show that if artificial respiration is given to men within a minute of electrocution 90% recover; if after 6 minutes, only 10% recover. In other words, drowning is as urgent a condition as a spurting artery.) The essential apparatus consists of (1) a plane to which the patient can be fastened; (2) a fulcrum; (3) a stop to prevent the plane sliding to and fro on the fulcrum.

1. A ladder or a door might be used, but for present purposes we can assume that a stretcher is available. The man may be held

on by an assistant; or a rope, suitably padded, may be secured to pass above and below the buttocks to prevent his slipping. We find it simpler to bandage the wrists and ankles to the handles of the stretcher. This is not only firmer but much more comfortable. The upward pull on the extended arms gives an additional Silvester effect to inspiration, and bandaging does not interfere with the "Schafer," which must continue up to the very moment of rocking.

2. A simple and practical fulcrum is the loop of a rope which is secured overhead at two points a few feet apart. Failing an overhead support with space below it, a metal bar may be fixed above a convenient space by means of two ropes, just as an acrobat's horizontal bar is fixed above a stage. The bar must be fairly strong; a broom-handle is not stout enough. However, it is more convenient to use a trestle, for which 32 to 34 in. is an ideal height: when the stretcher handles touch the deck a tilt of 45 to 50 degrees will be given. The trestle's crosspiece should be of round section at both ends. Folding trestles are always valuable, and it is well worth having four or six made. In pairs they are useful in bringing stretchers to a suitable height for surgery and major dressings. They can also be employed to maintain a man in the Fowler or Trendelenburg position.

3. A rocking stretcher will slip to and fro on a rope or trestle. In an emergency, and even during rocking, this can be prevented by hammering two nails or staples into the underside of each sidebar on both sides of the rope or crossbar. W-shaped pivots of wood or metal are better, and are easily made: they should be permanently attached below the centre points of the sidebars of several stretchers. The patient's abdomen, which sags below the level of the sidebars, is then prevented from resting on the rope or crosspiece of the trestle. These pivots must be shorter than the feet of the stretcher, or the stretcher will be unstable on the deck.

Method of Resuscitation

Immediately the man is rescued from the sea, Schafer must be started on deck. A stretcher is brought and he is rushed below. His wrists and ankles are tightly bandaged to the stretcher handles, Schafer being continued on it right up to the moment when it is hoisted quickly on to the trestle or rope. Any available man starts to rock the stretcher at the rate of a cycle every 4 or 5 seconds—that is, 12 to 15 double rocks a minute. It helps some people if they hum a tango or a slow tune, moving the stretcher at the beginning of each bar. The pumping movement should start abruptly, almost roughly, so that the abdominal contents begin to move early in the stroke. At first the handles of the stretcher should be allowed to rest on the deck at the end of the head-down stroke, the steep angle of 50 degrees giving very efficient chest drainage. Later it is easier to check the handles at about a foot from the deck. This gives a slope of 30 degrees, which is effective and is less work for the operator. If the Novox apparatus is available it should be placed on a table close to the pivot.

When rocking is in progress and the Novox is working, there is time to remove the man's clothes and to rub him down gently. He is covered with warm blankets, if possible an electric blanket. Hot-water bottles are placed around him, and some form of heating apparatus such as a hotplate may be introduced below the stretcher. The outer blanket may be allowed to hang down on each side of the stretcher to keep the warm air below.

Advantages of Eve's Rocking Stretcher

1. *It is Efficient.*—If doctors and first-aid men could make a personal trial of Schafer's, Silvester's, and Eve's rocking methods there would be few who would willingly use either of the older methods for longer than the time taken to fetch a stretcher and trestle. In view of the conflicting figures of earlier writers, the opinion of many volunteers may be of value. All agree that whereas the Schafer method produces a quick expiratory gasp, rocking gives a prolonged expiration of much greater volume. During Schafer it is difficult to auscultate any sound of inspiration, nor can the conscious patient feel it: during rocking it is easily heard and felt. This is so when the methods are practised on conscious men of normal tone: the difference will be greater in unconscious men. Henderson and Haggard (Cordier, loc. cit.) showed that chest elasticity is considerably diminished within 10 minutes of cessation of respiration; and everybody who has used Schafer's method on drowned men will agree that after the first few compressions far less air is expelled than when one is practising on healthy men, elasticity being noticeable by its absence. Schafer demands chest elasticity; rocking does not.

2. *It is Much Simpler and Less Tiring.*—Any bystander can carry on efficiently after watching only a few moments to pick up the rhythm. Consequently it can be kept up for many hours or even days without skilled assistance. Since recovery has taken place after 8 hours of unconsciousness, work must be continued for that time or until rigor mortis sets in. With several casualties, and using the older methods, this may be impossible, for it involves the whole-time employment of many skilled men and their reliefs. Absolutely any "gash hand" can rock a stretcher rhythmically.

3. The patient can be stripped and warmed while rocking is going on. Wounds and burns of the trunk may be cleaned.

4. The stomach and respiratory tract are drained not only by gravity but by the pressure of the abdominal viscera.

5. In patients with wounds of the front of the body which need early treatment the method can be employed with the wounded man lying on his back. In this position the tongue must be held forward.

6. The method can be used for patients suffering from electrocution and gas poisoning, and it is a valuable alternative to the "iron lung" in cases of respiratory paralysis. The tilted stretcher is also useful for gravity drainage of the body cavities. It can be employed for counterextension (Eve, 1939; Blackburne, 1939).

7. It is harmless, and the ribs or liver cannot be injured. At rocking rates over 15 a minute there may actually be hyperventilation; but with the Novox apparatus in position there is no risk of washing out the CO_2. The complete lack of any feeling of sea-sickness during rocking may be explained by Boothby's observation that 75% of sea-sickness can be cured by oxygen inhalation.

Medical officers and first-aid personnel are urged to submit themselves to the rocking. It looks very unpleasant, but they will be amazed to find that there is no uncomfortable strain on the arms or legs—in fact, there is a tendency to go to sleep. For the first time, they will not even have to bother to breathe!

Summary

Eve's rocking method of artificial respiration is described. The patient is placed on a stretcher and rocked through a total angle of 60 to 90 degrees 12 to 15 times a minute. The method is especially suitable for ships, as it is efficient, simple, unfatiguing, and needs no skill. Simple apparatus is desirable and useful, but is not necessary.

The kind help of Surg. Cmdr. J. J. Keevil, R.N., Surg. Lieut. D. de Launay, R.N.V.R., and Dr. F. C. Eve himself is gratefully acknowledged; and thanks are due to the officers and men of this and other H.M. ships for helping in the work with their usual cheerfulness.

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J. J. Miller and T. M. Saito (*J. Pediat.*, 1942, **21**, 31) record their observations on 100 children who underwent concurrent immunization with combined alum-precipitated diphtheria and tetanus toxoids and *H. pertussis* vaccine. The results were satisfactory as determined by Schick tests, tetanus antitoxin titrations, *H. pertussis* agglutination tests, and exposure to whooping-cough. Concurrent injections of fluid diphtheria and tetanus toxoids together with *H. pertussis* vaccine yielded relatively poor responses in tetanus antitoxin but satisfactory immune responses with respect to diphtheria and whooping-cough. In tetanus immunization a three-months interval between the first and second injections of combined alum-precipitated toxoids is recommended; and a third injection of alum-precipitated tetanus toxoid without diphtheria toxoid three or four months afterwards.

COMMUNAL FEEDING

A PRELIMINARY REPORT

BY

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Hostels Branch of Ministry of Supply

The feeding of Royal Ordnance Factory workers resident at hostels adjacent to the factories provides certain data which bear upon the provision and the nutritive value of communal meals. During the past twelve months their number has slowly risen until to-day there are 10,000 occupants in various hostels throughout the country. The great majority are women, but at a few hostels there are a small number of men. The total round figure of 10,000 includes Ordnance Factory workers and staff. Most of the workers have previously been occupied in industry, although a considerable number have been drawn from distressed areas and for long periods had been either unemployed or not fully occupied.

Medical Examination

All the entrants to the factories are medically examined, and no workers are admitted who are found to be suffering from gross defects or active disease. At the same time the average standard of physique and health on admission is not high. After three months' stay at the hostels the management and the sisters in charge of the sick bays report a notable improvement in the general appearance and well-being of all the girls, particularly in those who came from distressed areas and who were evidently below par on admission. No precise data are available to support this general observation except the sick-bay returns, which indicate a very low incidence of morbidity (Table I).

TABLE I.—*Weekly Hostel Sick-bay Returns from March 28 to June 27, 1942*

Date	Total Occupants	Total Patients (excluding those with Industrial Rashes)	Total suffering from Scabies
27/6/42	10,009	138 (1·37%)	6
20/6/42	10,009	155 (1·54%)	12
13/6/42	8,973	147 (1·64%)	18
6/6/42	8,973	124 (1·38%)	16
30/5/42	8,973	113 (1·26%)	17
23/5/42	8,847	120 (1·35%)	16
16/5/42	8,847	137 (1·55%)	11
9/5/42	8,847	136 (1·54%)	13
2/5/42	7,753	101 (1·30%)	6
25/4/42	7,320	120 (1·64%)	16
18/4/42	7,320	124 (1·69%)	16
11/4/42	7,320	149 (2·04%)	7
4/4/42	5,687	117 (2·06%)	9
28/3/42	5,687	124 (2·18%)	7

From this table patients suffering from industrial rashes are excluded. The number of scabies cases, all of which are included, is so small as not appreciably to affect the position. Only 2 cases of pulmonary tuberculosis occurred during the period under review.

Hostel Regime

The low incidence of morbidity among hostel occupants is attributable in large part to the general regime in operation. The girls, who mostly work on three shifts, retire at regular hours and get an ample measure of sleep and rest. Opportunities are afforded for rest and exercise. Special facilities for recreation are provided, and every hostel has a library. The girls have access to a well-equipped laundry, and an up-to-date hair-dressing establishment operates on a low scale of charges. The social halls of the hostels all have an excellent dance floor. The hostels are provided with regular entertainment by dance bands, orchestras, and concert parties.

The residents elect a committee of their own to co-operate with the management in the provision and operation of all these amenities, and they take a very large and direct share in the running of the hostel. The managements are at great pains to meet all reasonable wishes of the hostel occupants. As a hostels medical officer I have had the opportunity of staying in these hostels, of examining their working conditions closely, and of meeting the girls. I have observed and been impressed by the general feeling of well-being and contentedness which they manifest. The impressive feature of hostel life, however, is to a medical observer the communal feeding. The conditions under which this is carried out make it of particular importance at this juncture, when the provision of communal meals is being extended to an increasing proportion of the population.

Catering Management

Great care has been taken to appoint to the charge of catering departments highly qualified and experienced managers. These catering managers, in consultation with the general management, have given very detailed attention to the menus which they provide. Under the national system of rationing there is not a wide range of foodstuffs which can be provided, and the supplies are limited. Rationing operates rigidly in these hostels, as in private homes, but there is one great distinction, in that all the ration cards are taken over by the management and the rations are pooled. Table II indicates the frequency with which the more important protective foods are supplied.

TABLE II

(*a*) *Milk.*—Served in custards, milk puddings, and tea or coffee for at least one meal a day, and, in addition, on porridge or corn flakes each morning.
(*b*) *Cheese.*—Served 3 or 4 times a week. *Butter.*—Served for tea and supper; *margarine* for breakfast.
(*c*) One egg per person each week.
(*d*) *Fruit.*—Fresh rhubarb twice a week; prunes and apples once a week.
(*e*) *Green Vegetables.*—Every day: the varieties on the market at the time.
(*f*) *Salads.*—About 5 times a week.
(*g*) *Meat.*—One meat dish daily. *Liver.*—There has not been enough available to supply this for meals recently.
(*h*) *Fish.*—2 or 3 times weekly.
(*i*) *Standard Bread.*—Unlimited supply.

Table III, supplied by an average small hostel, indicates more precisely the daily consumption of the listed articles of food.

TABLE III

(*a*) Milk, 1/2 pint.
(*b*) Cheese, 2/7 oz.; butter, 3/14 oz.; margarine, 16/35 oz. Total, 67/70 oz.
(*c*) Eggs, 1/7.
(*d*) Fruit, 18/25 oz. (all varieties).
(*e*) Green vegetables: Cabbage, 3/14 lb.; cauliflower, 3/80 lb. Total, 141/560 lb.
(*f*) Salads: Lettuce, 18/285 lb.
(*g*) Meat, 9/7 oz.; liver, 3/7 oz. Total, 12/7 oz.
(*h*) Fish, 8/7 oz.

A menu for the week ending June 27, 1942, is shown below. The preparation of these menus is a matter to which the general management and the catering management give particular attention. They have the advantage of seeing and discussing menus drawn up and provided at other hostels, and all the menus are considered from the point of view of providing, so far as possible, a sufficiency of the protective foods. The major difficulty which faces the catering manager arises from the shortage of fresh fruit and, in some cases, a relative shortage of green vegetables. It is a general practice in these hostels to pay particular attention to the preparation of vegetable soup, and all the vegetable water finds its way into the stock-pot, together with as many varied greens, carrots, and other suitable vegetables as are available.

Specimen Menus for the Week Ending June 27, 1942

June 21.—Breakfast: Porridge or puffed wheat, scrambled eggs, bread-and-butter, jam, marmalade, tea. Dinner: Oxtail soup, roast lamb, mint sauce, cauliflower, carrots, baked or mashed potatoes, ginger sponge, custard, tea or coffee. Tea: Currant bread, bread-and-butter, tea. Supper: Vegetable soup, cold meat, salad, mashed potatoes, rhubarb tart, custard, tea or coffee. Snack: Vegetable soup, potato cakes, cheese, bread-and-butter, tea or ovaltine.

June 22.—Breakfast: Porridge, fish or jam, bread-and-butter, tea or coffee. Dinner: Brown soup, vegetable stew, potatoes, steamed date pudding, tea. Tea: Bread-and-butter, cake, tea. Supper: Lentil soup, grilled liver, potatoes, cabbage, pudding, tea or coffee. Snack: Soup, buttered toast and cheese, tea or coffee.

June 23.—Breakfast: Porridge, liver, bread-and-butter, tea. Dinner: Vegetable soup, roast beef, cabbage, baked or boiled potatoes, steamed jam pudding. Tea: Bread-and-butter, cake, tea. Supper: Tomato soup, roast beef, cabbage, potatoes, rhubarb and custard, tea or coffee. Snack: Soup, chips, bread-and-butter, tea or coffee.

June 24.—Breakfast: Porridge, bacon, bread-and-butter, tea. Dinner: Soup, roast beef, baked and boiled potatoes, cabbage,

tapioca whirl, tea or coffee. Tea: Cake, bread-and-butter, tea. Supper: Soup, macaroni and cheese, mashed potatoes, almond sponge, custard. Snack: Soup, cottage pie, bread-and-butter, tea or coffee.

June 25.—Breakfast: Porridge, rissoles, bread-and-butter, marmalade or jam, tea or coffee. Dinner: Vermicelli soup, cold ham, cabbage, semolina and custard, tea or coffee. Tea: Scones, bread-and-butter, jam, tea. Supper: Mannastorme soup, cold roast beef, lettuce, beetroot, jacket potatoes, steamed chocolate pudding, tea or coffee. Snack: Soup, fried cheese sandwiches, tea.

June 26.—Breakfast: Porridge, boiled eggs, bread-and-butter, tea or coffee. Dinner: Kidney soup, Irish stew, haricot beans, potatoes, rhubarb tart and custard. Tea: Cake, bread-and-butter, tea. Supper: Vegetable soup, Irish stew, cottage pie, cabbage, potatoes, steamed marmalade pudding, custard. Snack: Vegetable soup, lentil cutlets, lettuce, pickled cabbage, tea or coffee.

June 27.—Breakfast: Porridge, liver, sausage, or bacon, bread-and-butter, jam, tea. Dinner: Potato soup, steamed fish, parsley sauce, mashed potatoes, rice pudding, tea or coffee. Tea: Currant loaf, bread-and-butter, tea. Supper: Vegetable soup, roast lamb, mint sauce, cabbage, mashed potatoes, Swiss roll, custard, tea or coffee. Snack: Soup, sardine sandwiches, tea or coffee.

Commentary

Catering Management.—The general standard of trained catering managers is high. At the same time there are evident weaknesses in kitchen methods.

Nutritive Value of Meals.—Specific instruction by nutrition authorities on the nutritive value of meals would be welcomed by caterers. This could with advantage include cold dishes and hot meals.

Cold Salads.—These are not always well chosen or effectively served, and there is not a sufficiently wide appreciation of the food values available in salad form. I consider instruction is needed in this connexion.

Stock-pot.—This is a wartime necessity and must be given a higher status in the kitchen. While the value of vegetables and vegetable water is appreciated, there generally is lacking any precise knowledge of the effect of boiling on foodstuffs. Great variation is to be seen in different kitchens. A few stock-pots and soup-containers are well handled, but it is doubtful whether the bulk of the soup that is served contains the qualities that the food used could provide. Too much water is employed in the preparation, or too little; the soup is boiled either longer than is desirable or not long enough. In fact, soup preparation is still considered too simple a matter to particularize, and it calls for more attention from the catering management.

Fish and Chips.—Fish and chips is the *pièce de résistance* of the factory working-girl. My view is that the girls are good judges of body needs. Fats under wartime conditions are in minimal supply, while both fish and chips are excellent foods. The girls describe the dish as "tasty," but it is no more so than many dishes could be made if properly cooked. The savoury element in fish and chips points the way to the better handling of savoury dishes.

Cheese.—Cheese dishes, generally speaking, are unpopular in the hostels, though in some cases they are appreciated and favourably commented upon. I have sampled these dishes in various hostels, and it does seem that while as a rule they are well prepared, they are produced very differently by different caterers. Where cheese dishes are rejected and unpopular, these have a particular character that does not appeal to the girls' taste. The importance of cheese and its availability under present circumstances make it desirable that this aspect of catering should be looked into.

Conclusion

In general the types of food necessary for health are well appreciated, and these are supplied to the limit to which they are available. The food provided appears fully to meet the health needs of the residents. The catering management is in good hands, but more precise direction in respect to particular aspects of preparing some of the foodstuffs is desirable and would be welcomed.

The preparation and provision of a communal meal is a practical and economic proposition so far as Royal Ordnance Factory workers living in hostels are concerned. In fact, the health of the girls resident in these hostels notably improves, and this improvement can be attributed, in part at least, to the manner and method of the feeding arrangements.

Medical Memoranda

Unusual Case of Intestinal Obstruction in a Child

The following case appears to be uncommon enough to warrant record.

Case History

The patient, a girl aged 3, was admitted to the Whitehaven and West Cumberland Hospital with a history of 4 days' abdominal pain and vomiting. The pain, which was intermittent in character, was becoming less frequent, but the vomiting, which had at first merely consisted in the return of any fluids given by mouth, had become bilious. The bowels had not been opened for 4 days. The child, though obviously ill, was quiet between the attacks, the temperature was normal, and the pulse rate 140. She was not markedly dehydrated. The tongue was normal; the abdomen was distended and tympanitic. There was no visible peristalsis and no definite tenderness. A small hard mass was palpable in the right iliac fossa; the lower bowel was empty. The white cell count was normal. A diagnosis of intestinal obstruction was made, and it was thought that this was probably due to adhesions to tuberculous glands in the right iliac fossa.

A general anaesthetic (open ether) was administered, and a right lower paramedian incision made. The abdomen contained slightly turbulent free fluid. A distended and inflamed coil of small intestine presented. This was followed down, and in the lower part of the ileum a hard mass about the size of a mouse was found in the lumen; there was a similar smaller mass a few inches further down, and below that the bowel was collapsed. The larger mass was firmly impacted and fixed, but it was possible to "milk" the smaller one back to the larger fixed one. The bowel over this was friable, and the peritoneum had split longitudinally. The bowel was clamped and incised and the two foreign bodies removed. These were found to consist of tightly matted hair, with strands of cotton interwoven (see Fig., compared with a penny). In view of the state

of the bowel it was considered advisable to do a resection, and about 6 in. of bowel was removed and an end-to-end anastomosis performed. The abdomen was closed without drainage.

The child was very ill for the first 3 days and vomited twice. After this she started to improve, and a week later the bowels were moved. There was a slight residual superficial infection of the wound. This quickly resolved, and the patient was discharged 3 weeks after operation.

Comment

Cases of hair-ball in the gastro-intestinal tract are relatively uncommon, and those which have been described have usually been in the stomach and in older persons. The condition is often associated with mental disorder. The child under discussion is of a highly strung nervous type, and had been known to chew her hair, though not for several months previously. Immediately she came out of the anaesthetic she started to clutch her hair, which was short. It was kept covered for the first few days after operation and the parents were warned to watch the child carefully in future.

The condition, which is known as trichobezoar, is found in domestic animals and cattle; it is also described as occurring in fowls (Hutyra and Marek) due to feathers, and is said to be caused by protein deficiency in the diet.

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Reviews

PREVENTION OF AIR-BORNE INFECTION

Aerobiology. Edited by Forest Ray Moulton. (Pp. 289. No price given.) Washington: American Association for the Advancement of Science, Smithsonian Institution Building.

An imposing volume entitled *Aerobiology* contains 36 papers by a total of 55 authors presented at a meeting of the American Association for the Advancement of Science held in Chicago in September last. It is a sign of the wide interest now being taken in air-borne infection and its prevention that the study of this subject should now be given the status of a distinct science. These papers deal with many aspects of it, from the origin and behaviour of infected particles to their destruction or elimination. There are many excellent photographs of the products of sneezing and coughing, reminiscent of those obtained by Bourdillon and Lidwell in this country (including one showing that droplets can traverse a gauze mask), studies of the subsequent behaviour of particles of different size, and a discussion of their fate when inhaled: an important fact is that the smaller the particle the more likely is it to reach the lungs. A paper on air-conditioning reveals that down-draught ventilation has the disadvantage of throwing floor dust into suspension: experiments are described with filtered air which show that it is possible to maintain Caesarean-born animals for periods up to 6 weeks in a completely germ-free state—a technical achievement of a high order. No fewer than 12 papers deal with ultra-violet light as a means of air disinfection, and there is sound evidence of its efficiency, both when used more or less diffusely and when applied as a barrier between the patient and his surroundings. The most elaborate practical installations described are cubicles for infants furnished either with filtered air or light barriers; the general adoption of such systems would of course be enormously expensive. The only method of chemical air disinfection considered is the use of propylene glycol: it certainly seems at first sight—for this method is newly discovered—that for efficiency combined with complete harmlessness propylene glycol vapour is at present unequalled.

This is "intramural" aerobiology: its "extramural" aspect, the inclusion of which justifies the use of so broad a title, is dealt with in 8 papers on the atmospheric distribution of insects, pollen, fungus spores, and bacteria. Special devices attached to aeroplanes were required for some of these studies, and much of the information is of great general interest, especially that on the dissemination of plant pathogens, such as the spores of wheat rust, over enormous distances. Medically, its chief interest lies in the fact that both pollens and fungus spores are potential allergens.

For anyone who either has not followed the rapid development of this subject, or wishes to study it more deeply with the aid of the numerous references given, this volume is indispensable.

ABNORMALITIES OF SPEECH

Speech and Voice: Their Evolution, Pathology, and Therapy. By Leopold Stein, M.D. With a foreword by J. R. Rees, M.D. (Pp. 233. 15s.) London: Methuen and Co. 1942.

Books on the physiology of speech and the treatment of its defects and abnormalities are apt to be diffuse, sometimes exploit pet theories, and are sometimes based upon insufficient scientific training. *Speech and Voice*, by Dr. Leopold Stein, is free from these common faults. He expounds his subject in excellent clear English, though this is not his mother tongue, he rides no particular hobby-horse, and his book is the work of an accomplished physician. The foundations are laid elaborately, and the reader must regard with respectful awe the extent of the author's reading in biology, embryology, philosophy, philology, psychology, and neurology, besides the references to general literature. In neurology the author depends largely upon the writings of Hughlings Jackson, to whom he turns again and again to explain the nature of abnormalities in speech. He recognizes the importance of the psychological background and that psycho-analysis may be of service, but he does not labour this aspect unduly. The treatment he recommends has a proper scientific basis of diagnosis and avoids empiricism.

Such a flood of loose writing and jargon has been released on these matters, especially in relation to the treatment of stammering, that this carefully prepared and erudite work is the more welcome, and will be of great value to speech therapists, because the basic facts, drawn from various scientific sources, are clearly and accurately stated. All interested in education, child welfare, and the neurology of children will find the book interesting.

HISTORY OF CARDIOLOGY

A Short History of Cardiology. By James B. Herrick. (Pp. 258; illustrated. $3.50 or 19s. 3d.) Springfield and Baltimore: Charles C. Thomas; London: Baillière, Tindall and Cox. 1942.

This survey of the history of cardiology by Dr. James B. Herrick is a remarkable book. In the first place, it is written by one of the masters of clinical cardiology who throughout a lifetime has watched the evolution of modern knowledge of heart disease and who himself has made important contributions to it. Secondly, the outline here presented with a light but sure touch, and with a blend of philosophy, reflection, and occasional gentle irony, covers a vast retrospect embracing the development of cardiology during more than 2,000 years.

Dr. Herrick shows how the discovery of clinical methods and the extension of necropsy studies hastened the progress of the science in the later years of the seventeenth century, and how in the time of Laennec and in the decades which followed up to the first half of the nineteenth century great strides were made in physical diagnosis. The microscope, and later the discoveries of bacteriology and radiology, marked in turn the period from Virchow to Pasteur and Roentgen. The advances in cardiology during the present century have received little attention. The author points out that this era of instruments of precision and laboratory methods has called for a revision of many of the earlier conceptions of the anatomy and physiology of the heart. But this epoch, which is still in progress, cannot yet be viewed in the perspective appropriate to a work such as this. Dr. Herrick's graphic style in his description of personalities—as, for example, in the lives of James Hope and William Stokes—lends additional interest to the text. The 48 reproductions of engravings and portraits are well chosen and beautifully executed. A feature of the work which will delight readers in these days of small print and cramped margins is the excellent typography.

Notes on Books

Hydrogen Ions, by H. T. S. BRITTON, D.Sc., appears in its third edition now bound in two volumes (Chapman and Hall, 36s. each volume). The book has become well known among teachers, students, and also many technicians, for there are few technical processes which are uninfluenced by variations in the concentration of ionized hydrogen. The book presents a comprehensive theoretical treatment of the subject developed from basic principles and extended to include the most modern views. It describes the various methods and apparatus used for the determination of *p*H, and discusses particularly their applicability to different circumstances, with remarks on their merits and limitations. To the new edition is added a useful chapter on oxidation and reduction systems. The book gives abundant information on the influence of *p*H on the technical operations of a number of industries of many kinds; they include the electro-deposition of metals, the tanning of leather, sugar manufacture, brewing, baking, and other operations.

Abstracts of dissertations approved for the Ph.D., M.Sc., and M.Litt. degrees in the University of Cambridge during the academical year 1940-1 are published in the usual form by the University Press. Ten of the dissertations are grouped together under biochemistry, one appears under anatomy, and one under pathology.

No. 7 of Volume II of *The Advancement of Science*, published by the British Association, Burlington House, London, W., at 5s., includes the first interim report of the Association's Committee on Post-war University Education, but by far the greater part of this number is devoted to an account of the conference on mineral resources and the Atlantic Charter, held last July under the presidency of Sir Richard Gregory.

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INFLUENZA

It is now some two years since London was under almost nightly fire, and, although most Londoners have rational fears for the future, few have emotional fears. Logically there is—as minor Ministers remind us at week-ends in those dreary speeches which almost reconcile us to illegibly small print—no reason why London should not be "blitzed" again; indeed a quite plausible argument could be made in favour of the hypothesis that the likelihood of mass attack varies inversely as the enemy's hope of victory. But in fact the people of London do not worry very much about a blitz; time is a healer. The same kindly obliteration of fears and sorrows by the hand of time has reduced the word "influenza" to its customary semi-humorous role. Pan is piping, not stamping on the earth. Yet, here too, quite plausible arguments can be drafted for the view that the menace of influenza on a pandemic scale is greater than it was in 1918. If, for instance, the great virulence of the last pandemic were due to the opportunities of commingling of men of like ages but from widely different environments, leading to the emergence of a strain of virus of special potency, certainly the circumstances of our time are not reassuring. If exclusion from the west of Europe is an epidemiological advantage, it will be, we are sanguine enough to hope, only a temporary advantage. It is, therefore, opportune to digest the teaching of past experience, some of it quite recent experience, and to see how we now stand, on what might possibly be the eve of another major epidemiological event. Drs. Burnet and Clark have written a monograph[1] for which we have nothing but praise; it is a lucid account of researches old and new in which the senior author has had an important share, and sets out necessarily technical facts in a manner which can be understood by those without recent experience of laboratory work. It is evidently not possible within the limits of an article to abstract the contents of a monograph; it should be read. We shall do no more than try to convey the impression made by such a reading.

The isolation in 1933 of the virus which has been renamed influenza virus A made an epoch in the history of research. Since then much work has been done, and now strains of virus A are known which may be regarded as intermediates between virus A and the virus B isolated in 1940. Although since 1933 no epidemic on the scale of 1918-19 has occurred, there have been epidemics of a disease which, judged by the pre-1933 criteria, would be regarded as homogeneous epidemics of influenza. Often, but not always, in these a strain of virus has been isolated, and the clinical individual features of the disease have been produced by deliberate or accidental infection with virus. It is plainly impossible to prove that the primary aetiological factor of the 1918 pandemic was a virus infection, but, as Burnet and Clark show, there is no feature of that epidemic which is inconsistent with a hypothesis which analogy makes reasonable. The events of 1918 are differentiated from later and earlier experience by (*a*) the change of age incidence and fatality, (*b*) the greater dispersiveness, the former being the more drastic. It is possible to think that the phenomena were due to the emergence of strains qualitatively different from their predecessors—perhaps the acquirement of ability to infect alveolar epithelium and vascular endothelium as well as ciliated epithelium. "Both changes can reasonably be ascribed to the unprecedented opportunity afforded for the spread of infection in large bodies of men from various parts of the world, and in particular to the arrival of American troops in Europe."

Are we in a better position than our predecessors to control influenza? Burnet and Clark think that the experience of Australia in 1918-19 shows that maritime quarantine may at least delay invasion, and (if we are dealing with a *materies morbi* the biological characters of which change rapidly) this is important. If quarantine is to be useful it must be simplified, and an essential point is to determine the duration of infectivity. The development of the amniotic technique has made practicable an investigation on a fairly large scale which should, in the authors' opinion, be carried out as soon as opportunity offers. Specific prophylactic immunization naturally appeals to our sense of drama, but the authors are far from being facile optimists. There is little doubt that it is technically possible to prepare virus of any grade of human virulence, but the practical problem of choosing from the variety of possible strains that which will be effective in the given circumstances of an outbreak is another matter. Most amateurs of chess can foresee adequate replies to the move the "master" might make; it is the move he did make which dismays them. Probably by far the most important precautionary measure is so to mobilize our scientific forces that at the earliest possible moment we may understand the move the great enemy has made, for, as in chess, it is not always the one move which is decisive but the following sequence.

If this survey of the position gives no ground whatever for optimism, it at least makes plain that we are not now so completely helpless as we were a generation ago.

[1] *Influenza, a Survey of the Last 50 Years in the Light of Modern Work on the Virus of Epidemic Influenza*, by F. M. Burnet and Ellen Clark. (Monographs from the Walter and Eliza Hall Institute of Research in Pathology and Medicine, Melbourne. No. 4.) Melbourne: Macmillan. (17s. 6d.)

HOURS OF EMPLOYMENT AND HEALTH

In the latest report of the Chief Inspector of Factories[1] the subject of hours of employment is discussed by Miss F. I. Taylor, a deputy chief inspector. She points out that the number of Emergency Orders granted, under which there are modifications in the hours of work permitted by the provisions of the Factories Act, nearly doubled between 1940 and the early part of 1942, and about 10,000 factories now have permission to employ women and young persons over the age of 16 either on a system of day and night shifts or for more than 48 hours a week. The permitted hours ranged from 55 to 60 a week in rather less than half the factories, so they do not show a substantial improvement on the hours recorded in the report of the Chief Inspector for 1940. Still, there was a slight improvement in the later months of 1942, and it must be remembered that the fact that permission has been obtained for certain hours does not necessarily mean that these hours will always be worked. On the other hand, Miss Taylor regretfully admits that in some factories women and young persons were employed continuously for 60 or nearly 60 hours a week, and it is difficult to understand why the Factory Department sanctions such hours, except for a very short period in a time of great emergency. The effects of long hours on casual absenteeism were revealed at a factory where the women worked for six full days a week, with a total of 56 or 57 hours. The absenteeism

[1] Cmd. 6397. H.M. Stationery Office. (6d.)

became so acute, owing to the women needing time for shopping and domestic duties, that the firm introduced a rota system, whereby the women had only 5½ days of work a week and a total of 52 hours. Since the change the casual absenteeism has practically ceased. The effect on output is not stated, but a firm is mentioned where the women were employed on making hand-grenades, and they were found to produce more grenades when working a 50-hour week than on a 56-hour week. At another factory, where scientific glass was made, the hours of work were reduced from 9 hrs. 50 mins. a day to 8½ hrs., and after two weeks the majority of the women were producing as much in the shorter hours as they had done in the longer ones.

The hours sanctioned by the Factory Department are often exceeded illegally, especially in the employment at night of young women under 18 and of boys under 16. In one case boys under 16 were employed on night shift for between 60 and 70 hours a week, and in another girls of 16 and 17 were employed on alternating day and night shifts with an average weekly total of 63 hours. Again, adult women were employed in the assembling of motor vehicles for 70 hours a week. In these and many other cases proceedings were taken by the inspectors against the occupiers, and there must be numerous instances of illegal hours which escape their notice altogether. Many married women with domestic responsibilities are taking up employment on a part-time basis. The most popular plan has proved to be a two-shift system by means of which two sets of women put in, between them, a full day of work between 8 a.m. and 6 or 7 p.m. An extension of this method is to work three short shifts per day, the hours of the shifts being 7 a.m. to 12 noon, 12 to 5 p.m., and 5 to 10 p.m. Or, again, four short shifts may be worked, running from 6 to 10 a.m., 10 a.m. to 2 p.m., 2 to 6 p.m., and 6 to 10 p.m. Another alternative is to get the women to work "overtime" hours in the evenings, after the ordinary workers have left at 5, 6, or 7 p.m. The women continue the work till 9, 10, or 11 p.m.

The long hours of work must often have an adverse effect on the health of the workers, but Dr. J. C. Bridge, the Chief Medical Inspector, maintains that, speaking generally, there is no reason to think that it has been so affected. He says that if industrial employment had produced deterioration in health there would have been an obvious increase in the notifiable infectious diseases, and that such has not been the case. Yet on another page of his report he briefly mentions the increasing incidence of tuberculosis among young adults, particularly females. What more striking evidence can we have of the adverse effects of war conditions than the vital statistics of Dr. Percy Stocks,[2] which show that the tuberculosis mortality of young women (aged 15 to 25) rose 16% between 1939 and 1941? It is apparently dependent in considerable degree on hours of work, for Drs. Laidlaw and Macfarlane[3] found that the pulmonary tuberculosis cases in Glasgow among industrial workers in general increased 21% between the same periods, while those of clerks and shop employees increased only 3%. Now these two classes of employees mostly worked for 48 hours a week or less, whereas the industrial workers were usually employed for 56 hours or more, and in many cases for 72 hours. Dr. Bridge considers that the maintenance of health is largely attributable to the steps taken to provide meals in the factory canteens at a reasonable rate; but other and perhaps more important factors must depend on the wise food policy of the Government, and on the fact that good wages are now being earned by hundreds of thousands of workers who were previously unemployed and suffering from malnutrition.

In regard to specific cases of poisoning, there were 41 cases of T.N.T. poisoning in 1941, of which 12 were fatal. There appears to have been a considerable increase on 1940, but cases of anthrax fell from 37 (5 fatal) in 1940 to 22 (3 fatal), probably owing to a reduction in the import of infected material. A serious increase in the number of gassing accidents is noted, there being nearly 200 cases and 10 deaths more than last year. The greatest increase was in cases of carbon monoxide poisoning—258 (24 fatal), compared with 162 (20 fatal) in 1940. Of the excess cases, no fewer than 56 (9 fatal) were due to miscellaneous causes such as coke braziers and exhaust gases from internal-combustion engines. The number of dermatitis cases has risen, owing to the increase in the number of entrants into industry and of materials used which may give rise to dermatitis, but Dr. Bridge deprecates the somewhat alarmist view that is taken of this skin condition. He points out that in the vast majority of cases the harm to the skin caused by the irritant quickly subsides on removal of contact, and that with appropriate treatment and protection of the affected part continuance at work, even at the same work, is not altogether impracticable. Success depends on the co-operation of the individual worker.

[2] *British Medical Journal*, June 27, 1942, p. 789; and this week's issue, p. 750.
[3] Ibid., July 18, 1942, p. 63.

GASTRO-INTESTINAL CONCRETIONS

It is pleasant at times to turn from the everyday to the out-of-the-way in medicine. Most practitioners at one time or another run across a number of odd swallowed foreign bodies ranging from buttons or kirby grips to screwdrivers and watches, but few in this country are likely to have heard of the "persimmon belt" or the unusual condition of persimmon bezoar. Persimmon is the American date-plum. Bezoar is a Persian[1] term used to describe concretions of various kinds found in the stomach and intestines of animals and man, and the persimmon belt is a general description given to a part of the United States in the Middle West with Kansas, Oklahoma, and Texas as its western boundaries. It is in the persimmon belt that persimmon eaters, and especially those who impatiently eat them before they are ripe, may once in a while develop a persimmon concretion in the stomach. The risk, however, would not appear to be great, for under 120 cases have as yet been recorded in the literature, and Feldman in Baltimore observed none among 30,000 *x*-ray examinations of the gastro-intestinal tract. Chont, living in the heart of the persimmon belt and facing the daily risks of phytobezoar formation, now records a further series of 9 cases and makes a number of interesting observations upon this condition. While hair balls (trichobezoars) are more frequent in women—a case in a girl of 3 is recorded by Mr. V. C. J. Harris in this week's *Journal*—persimmon bezoar is mainly confined to men, and the coincident occurrence of gastric ulcer is very high among these patients. Gastric acidity is mostly normal, and the *in vitro* formation of bezoars was found by Chont[2] to demand the presence of acid, though pepsin was not essential; in weak acid unripe persimmon fruit beginning to solidify in 24 hours. The radiological diagnosis was in most instances simple, and in some the concretion was of considerable size, measuring up to 5 inches across. In a case described by Guthrie a large bezoar had broken in two and one portion had become impacted in the jejunum, causing some degree of actual obstruction. This writer mentions a number of other types

[1] *Proc. Mayo Clin.*, 1941, **16**, 846.
[2] *Radiology*, 1942, **38**, 14.

of gastric concretion, among which is included the shellac bezoar found among painters who drink alcoholic solutions of shellac; this apparently forms by precipitation of the resins if the addict rashly reverts to the more usual custom of drinking water. One excessively rare occurrence is the formation of a bezoar caused by prune or raisin seeds and skins, by celery or salsify fibres, by pumpkin, and once by peaches. As with other things rarity brings its reward, and prices of bezoars—when supplies were available—were apt to be high in olden times, for they enjoyed a great reputation as remedies for poisonous and pestilent diseases. Even the temporary use of small pieces cost a high figure; in the scale of values the porcupine and monkey bezoars held the place of honour. The peach bezoar must be almost beyond price.

HIGH FLYING FOR WHOOPERS

Some three years ago an article in the German medical press described how children with whooping-cough had been taken up in aeroplanes with resulting amelioration of their symptoms.[1] Now two members of the Berne school medical service record[2] their investigation of this therapy in Switzerland, with the co-operation of local aviation and transport companies. P. Lauener and E. Maeder made the first attempt in the late spring and the early summer of 1939, but weather conditions were particularly unpleasant, and it required further studies in 1940 and 1941 before enough patients had been obtained to make statistical analysis possible. The patients were mostly school children, but some infants and toddlers and a few adults were included in the series. Each flight lasted about 90 minutes, of which about 40 were spent at a height of approximately 11,000 to 12,000 ft. A sudden transition to great height by a rapid ascent was ruled out as being too dangerous. The flights generally took place in the mornings, and observations on weather conditions and humidity were included in the records. Only a few children showed any apprehension before going up, and this quickly disappeared once they were in the air. The infants and small children usually went to sleep at a height of about 6,000 ft., and they woke again only on landing. About 30% of the children and adults experienced some nausea—the only disturbance caused by the flights—and none of the infants was sick. The authors collected 250 patients all in the paroxysmal stage of whooping-cough. In 57 cases (22.8%) an abrupt cure took place after one flight. Within at the most two or three days, and often immediately after the flight, these patients stopped whooping, and their astonished parents exclaimed that with the flight the whole picture of coughing and vomiting "had blown away." Another 80 (32%) were "cured" more slowly, a period of eight days being necessary to secure freedom from paroxysms. Thus in 55% of cases the flights may be said to have given good results in a short enough time to justify the conclusion that they had some therapeutic effect. A further 411 cases were improved; in 69 there was no change. Two of this last group were taken up a second time with good effect, and 4 children were taken up as a prophylactic measure, none developing the disease. Of the series 12 were adults, and all but 1 were benefited. Here the possible psychological effect has to be considered, but this could not be present in the case of infants, only 10 out of 34 showing no appreciable improvement. No very clear relation with weather conditions was established: some days gave better results than others, and it appeared that low humidity was better than high.

The Berne authors conducted two further series of observations, one on the Jungfrau and the other in low-pressure chambers. A group of 23 children and 1 adult were taken up by railway to a height of over 10,000 ft. and kept there for three hours before returning to Berne. The results were disappointing. In 16 out of the 24 cases there was slight improvement but no sudden disappearance of symptoms as after the aeroplane flights. The results with the low-pressure chambers were better. A group of 68 children were studied. They spent 60 minutes in the pressure chamber, with about 15 minutes for decreasing the pressure, 30 minutes at a pressure corresponding to a height of about 14,000 ft., and another 15 minutes coming back to normal pressure. Sudden "cure," as after the aeroplane flights, occurred in 31%, undoubted improvement in 50%, no improvement in 16%, and in 3% the disease became worse. Clearly the low-pressure chamber had advantages over the aeroplane, for it is independent of weather conditions. The psychological effect of the flight is also eliminated. When we recall that during the first half of 1941 between 3,000 and 5,000 cases of whooping-cough were being notified weekly in this country, aircraft firms, we imagine, would look upon the opportunity as one not to be sneezed at. Lauener and Maeder do not explain how this unusual method of treatment works. Does exposure to low pressure have an effect on *H. pertussis*? Or does it break a link in the chain of an ill-conditioned cough reflex?

HOSPITAL CONTRIBUTORY AND PROVIDENT SCHEMES

Two brief reports that have reached us throw sidelights upon the revolutionary changes in health and medical services which underlie the Beveridge plan. While Sir William Beveridge proposes that 100% of the population should be entitled to domiciliary and hospital treatment as part of the benefits of a universal compulsory insurance scheme, the Bristol Hospitals Fund publishes an interesting analysis of hospital contributory schemes—that voluntary system of comparatively recent growth which provides for the collection of regular contributions towards the cost of hospital care and treatment from some 10,000,000 people.

The author of the Bristol memorandum, Mr. John Dodd, sees two dangers ahead. One is that financial provision for hospital and ancillary services should be grafted on to national health insurance and be operated through a multitude of competing approved societies. But the other danger is that the present haphazard and inadequate methods should indefinitely continue. He urges regionalization of hospital services and of hospital finance, with only one contributory scheme in each of the divisions into which the several regions would be split up, and also that all contributory schemes should pledge themselves to observe minimum standards of contribution and of benefit, to provide unlimited services in general wards for acute sickness and to practise universal reciprocity. In the second report the British Provident Association, whose subscribers are people of moderate means, discusses the position of provident schemes in the future. Its executive council and its medical advisory board are strongly of the opinion that, whatever form future medical services may take, the two principles of free choice of doctor, hospital, and nursing home and of non-interference in the relationship of doctor and patient should be maintained. The council has circularized its subscribers on this subject, and reports that there is a large body of opinion that the facilities available for medical and institutional treatment for those with moderate incomes are in need of improvement in two main directions—namely, suitable institutional accommodation at reason-

[1] See *British Medical Journal*, 1940, 1, 900.
[2] *Schweiz. med. Wschr.*, 1942, 72, 819.

able charges, and means of mitigating the effects of the financial burden of serious illness. They think also that the extension of pay-bed provision in voluntary hospitals is the best method by which institutional accommodation should be secured, and that the development of provident schemes on similar lines to those operated by the association, providing for free choice of doctor and institution, should form an essential part of any improved service.

CHEMOTHERAPY FOR TUBERCULOSIS

Tuberculosis is the most important single infection which has not hitherto been brought within the scope of sulphonamide treatment. Its chronicity, the avascularity of the lesion, and perhaps the capacity of the tubercle bacillus for long survival under unfavourable conditions, all discourage the belief that any drug of this type can bring the infection under full control. There is nevertheless evidence that the dissemination and extension of acute tuberculosis in the guinea-pig can be retarded. That sulphanilamide is capable of doing this was reported more than four years ago by Rich and Follis[1]: since then a similar effect has been obtained from sulphathiazole, and an even more striking retardation by promin, a soluble derivative of 4,4′-diaminodiphenylsulphone.[2] These effects have only been achieved by dosage on a scale which could not be contemplated for clinical use, as much as 1% of the drug being incorporated in the animals' food over long periods. Guinea-pigs can apparently tolerate this treatment, but according to B. E. Hall *et al.*[3] quite moderate doses of promin frequently produce a haemolytic anaemia when given for the treatment of tuberculosis in man: recovery is fortunately rapid after withdrawal of the drug. These authors treated 70 cases, and they state neither the effect on the disease nor the actual frequency of the consequent anaemia, but it is evidently a factor which must seriously curtail the efficacy of the treatment. If long-continued systemic treatment with promin is not feasible, there remains the more limited possibility of its local application, and this has been exploited by W. H. Tytler and A. D. Lapp in a study described on p. 748. The advantage of local sulphonamide treatment is that a high concentration of the drug can be attained in the neighbourhood of the lesion itself, while that in the blood remains relatively low. In Hawking's[4] studies of the experimental prophylaxis of gas gangrene, sulphanilamide attained a concentration of about 1,000 mg. per 100 c.cm. in the wound fluid when introduced in powder form: sulphapyridine, being much less soluble, reached a concentration of only 40 mg. per 100 c.cm.; and sulphathiazole, with an intermediate degree of solubility, approached the ideal by combining adequate concentration with persistence. The solubility of promin is no less than 45%: solution and absorption would therefore be so rapid as to deprive the drug of any persistent action unless measures were taken to retard them. This difficulty was overcome by incorporating a solution in a tragacanth jelly; but an alternative worthy of trial would be the employment of 4,4′-diaminodiphenylsulphone itself, or of some other compound with a degree of solubility more suited to local use. This type of preparation seems nevertheless to have been satisfactory, and its injection into tuberculous abscess cavities was followed in some cases by remarkably rapid healing. As the authors point out, there is a large field for such treatment in tuberculous cervical adenitis. Abscesses in connexion with tuberculosis of bone were among their successful cases, and there is presumably no serious contraindication to injection into an affected joint. Although this treatment has a limited scope, it is evidently worthy of further trial, and may prove capable of improvement and extension.

1 *Johns Hopk. Hosp. Bull.*, 1938, **62**, 77.
2 *British Medical Journal*, Dec. 13, 1941, p. 856.
3 *Proc. Mayo Clin.*, 1942, **17**, 24.
4 *British Medical Journal*, 1941, **1**, 253.

NEW SOURCES OF QUININE

The question of extending cinchona cultivation in the Colonial Dependencies, and the possibility of making the Colonial Empire largely independent of outside sources of supply of quinine, both for its immediate needs and for post-war years, is under consideration by a special subcommittee of the Colonial Advisory Council on agriculture and animal health. The planting of cinchona is already being carried out on some scale in Uganda, Tanganyika, Kenya, and Ceylon. Practically the whole of the world's supplies of quinine were, before the war, derived from Java. Thence, before the Japanese occupation, the total annual exports were in the region of 1,700,000 lb. a year. The only other sources of production were India, which produced about 70,000 lb. a year, and South America, which is the original home of cinchona, and from which small amounts of bark continue to be exported. Action was taken at an early stage of the war to ensure that reserves of quinine should be available in the Colonies. Concentration of troops and labour forces in the malarial areas, however, makes increased demands likely, and steps are being taken to meet this possibility.

WANTED: BRITISH MEDICAL FILMS

As most readers know, the function of the British Council is to make people in other countries acquainted with the various aspects of British cultural life. It does this through the medium of the written and spoken word, and also through films. The British Council is now engaged in producing medical films, and is at the same time anxious to have a complete record of any medical films in this country which might be suitable for showing overseas, which are not already included in the catalogues of the British Film Institute or of Messrs. Kodak, of 16 mm. or 35 mm. gauge. Will any medical man who has such films communicate with the Film Department of the British Council at 3, Hanover Street, London, W.1?

The *Journal of the American Medical Association* announces that the A.M.A. will not hold its 94th annual session in San Francisco next June. This is the third time in the history of the Association that an annual session has been cancelled, the earlier occasions being in 1861 and 1862 during the Civil War. The House of Delegates, the Board of Trustees, and scientific councils and the officials will meet in Chicago to deal with the affairs of the Association, particularly the many wartime responsibilities being borne by the medical profession of the United States.

For some years past efforts have been made to obtain for the members of the Royal Naval sick-berth staff recognition of their qualifications, by examination and experience, to be accepted as male nurses in civil life. These attempts have hitherto failed, and neither of the two recent committees (presided over by Lord Athlone and by Lord Horder) which have dealt with nursing generally have touched on the matter, though it was specially brought to their notice. The effort continues, as may be judged from the letter by Surgeon Rear-Admiral Falconer Hall printed in the *Journal* of Nov. 21 (p. 621). It is hoped that the position of these competent and deserving men will be fully considered before any new legislation is proposed.

War Medicine Series

The paper printed below is based on a lecture which was one of a series recently given at the British Postgraduate Medical School, Hammersmith

SKIN DISEASES IN WAR

BY

R. T. BRAIN, M.D., F.R.C.P.

The various infections of the skin account for the great majority of skin diseases in war, and these infections may be considered conveniently in their aetiological groups. Thus we have the common pyogenic infections, seborrhoeic dermatitis, mycotic infections, virus infections, and those due to animal parasites. In many of these conditions the diagnosis is simple and calls for little comment, while treatment is of supreme importance not only to the individual but to the community, for the speedy cure of an infection is the most certain method of preventing its spread.

The Pyogenic Infections

The common infections to be considered under this heading are of streptococcal or staphylococcal origin, but it should be remembered that mycotic and virus lesions, and also the less familiar lesions of cutaneous diphtheria and leishmaniasis, may be pustular too.

Impetigo Contagiosa

Several clinical varieties can be recognized, the discrete scabbed sore being the most common. Bullous lesions suggest greater virulence, and the spread is usually rapid. As the bullae resolve after rupture by drying centrally, the edges remain red and may extend as a circinate lesion closely resembling tinea but more rapid in its course. Rarely, ulcerative lesions termed "ecthyma" occur, and this variety leaves scars. Occasionally pale scaly lesions—impetigo pityroides—are present with or without the other varieties, and such lesions are apt to be confused with the scaly seborrhoids, to which they are probably related. Impetigo often involves the angles of the mouth, producing septic fissures; it also attacks the skin folds, setting up a septic intertrigo, the post-auricular variety being the most common. Septic fissures and pus-coccal intertrigo are likely to persist as chronic lesions long after the primary condition of impetigo has cleared up. Sometimes in the course of impetigo, either because the infection is very acute or the skin is irritated by treatment, a rapidly spreading pus-coccal dermatitis results. This appears as a bright erythematous area—hot, slightly oedematous, often weeping or crusted, but not indurated or so well defined as erysipelas, and the constitutional disturbance is lacking. A weeping pus-coccal dermatitis is often loosely called "eczema," but it is advantageous to retain the latter term for the response of a hypersensitive skin in which grouped minute papulo-vesicles erupt in non-inflamed areas. Naturally a skin may be sensitized by an infection or by an irritating application, and then upon the dermatitis so produced the grouped eczematous lesions will appear; but if the eczematous nature of the new eruption is not at once apparent by its morphology it soon will be when further eczematous lesions arise outside the inflamed area and perhaps symmetrically upon the limbs. The distinction between dermatitis and eczema is of practical importance because in acute pus-coccal dermatitis the infection must be fought, whereas eczema calls for sedatives and emollients to soothe and desensitize the skin.

Before discussing treatment it is necessary to add that few dermatologists claim to be able to distinguish between staphylococcal and streptococcal lesions of impetigo contagiosa. Streptococci have often been found in pure culture in early bullous lesions, which cannot therefore be regarded as peculiar to impetigo of staphylococcal origin. The dramatic response of many cases of bullous impetigo to a sulphonamide adds support to this view.

Treatment of Impetigo

One might say provocatively that general treatment is unimportant, for most of the cases clear up quickly on local treatment alone. Even so, it is bad practice to treat any lesion and neglect the individual, and in the exceptional case general treatment is vital: this happens when a virulent organism or lack of resistance on the part of the patient produces a rapidly spreading infection, the lesions of which are deeply coloured with an erythematous flare spreading around them like a developing erysipelas. Sulphanilamide is usually quickly effective in such cases, doses of 1 g. three or four times a day for a week being adequate as a rule. Although such relatively small doses rarely produce toxic symptoms, ascorbic acid is a safeguard, and as wartime diets are low in vitamin C content, doses of 50 mg. two or three times a day are useful. Personal experience and reported cases suggest that vitamin C is very helpful in many infections, so that it is worth while giving it alone in obstinate cases of impetigo. Chronic pus-coccal lesions such as septic fissures and intertrigo may resist local treatment for years unless every effort is made to improve the general health. The good effects of ultra-violet light upon immunity and metabolism should be considered. Phenobarbitone has cured many an obstinate case of impetigo in a nervous subject whose picking at the sores, even during sleep, has frustrated local treatment.

Local treatment is determined by local conditions. The most important fact to remember is that the normal dry intact horny layer is invulnerable to bacterial infection. A moist skin is a vulnerable skin, so that the indiscriminate use of water or grease is to be avoided. The exudate from moist pus-coccal lesions can permeate the stratum corneum, thus bringing the organisms in a suitable culture medium to the moist layers, where they may actively infect; and no doubt this explains the spread of bullous impetigo on the face by a pillow at night. This can be prevented by soaking a clean handkerchief in liq. hydrarg. perchlor., pinning it when dry to the pillow, and lightly powdering it with talc. Auto-infection by scratching can be diminished by cutting the nails short, scrubbing the free edges, and disinfecting them with antiseptic—an important fragment of technique in nervous patients and in children. Obviously it is equally important to dry up the early lesions as soon as possible. When these lesions tend to dry and heal spontaneously it is sufficient to apply calamine lotion or a dusting powder, and cure may be expected in a few days. Flat scabs on dry lesions may be left undisturbed and in due course they will flake off the healed skin, but the scabs on purulent sores need removing so that the antiseptics may inhibit or destroy the infection. A simple and satisfactory method of removing scabs and crusts is to apply hot compresses of 2% sodium sulphate for one hour and then to cleanse with a similar lotion or with 1% solution of sodium bicarbonate or normal saline. Dettol, hydrogen peroxide, or hypochlorite solution may usefully be added to the cleansing lotions. The need for isotonic or slightly hypertonic solutions is stressed, because skin denuded of its protective stratum corneum is instantly damaged by water, and the H-substance released by the disrupted cells increases the erythema and exudation. The starch poultice brings heat and moisture into more intimate contact with the skin, but it is less cleanly than the saline compress. Kaolin made into a paste with 2% sodium sulphate solution is a simple substitute for the starch compress.

Having cleaned away scabs and exudate, the next object of treatment is to dry the moist surface. Local ultra-violet light is an excellent method if available, since this has a superficial bactericidal effect and also stimulates healing and increases the resistance of the skin. Failing ultra-violet, infra-red or the near light of an electric bulb, or the warm air of an electric dryer, can be used. In actual practice one often has to depend upon powders and drying lotions. As a powder basis, zinc oxide, talc, and kaolin should be used instead of starch, and 2% of ammoniated mercury or calomel or 5% of sulphanilamide may be incorporated. Sulphanilamide powder alone is

effective in the treatment of virulent lesions but more active as a 5% solution in glycerin.

In mild infections calamine lotion alone or with 2% liquor picis carbonis or 0.1% mercury perchloride is to be preferred as a cosmetic application. A suitably tinted 20% suspension of kaolin with 0.1% mercury perchloride or 2% ammoniated mercury is a useful alternative. If these lotions do not control the exudate—and occasionally metallic substances increase it—the dyes should be used. A 2% watery solution of gentian violet is excellent, although it obscures the lesion more than 0.1% acriflavine, to which 4% of tannic acid may be added to coagulate the serous discharge. Certain metallic salts also have a coagulating effect; useful formulae being silver nitrate 2 to 5% in distilled water; or eau d'Alibour, zinc sulphate gr. 6, copper sulphate gr. 4, in 1 oz. of water. Alcoholic solutions irritate the broken skin, and even spirit soap is best avoided.

If the skin becomes too dry or if eczematous lesions indicate intolerance of watery applications, creams or pastes should be tried. The former consist of 6 to 10% of calamine or of zinc oxide in a mixture of a vegetable oil and an equal volume of lime-water. Up to 10% of lanolin may be added to make a smoother cream, and the further addition of 2% of ichthammol, phenol, or liquor picis carbonis serves to relieve irritation and to add an antiseptic quality to the cream.

Zinc paste consists of one part of starch, one of zinc oxide, and two of soft paraffin. No doubt it would be just as effective if made with equal parts of kaolin and vaseline. These pastes may be improved for certain conditions by adding 2 to 3% of crude coal tar or of yellow oxide of mercury. Either may suit a dry impetigo, an obstinate intertrigo, or an eczematous lesion intolerant of lotions. Since pastes contain 50% of powder they can absorb moisture from the skin, and their degree of permeability prevents maceration and overheating. Compared with ointments, pastes represent a saving of nearly 50% of the fatty base—an important economy in war.

Ointments have a limited sphere of usefulness, and their irrational employment on moist lesions accounts for a lot of unnecessary dermatological practice. The skin is kept moist and vulnerable to infection under greasy films, and the formation of a healthy stratum corneum is retarded because desiccation is part of its natural stimulus. It is true that, according to many textbooks, ointments have a prominent place in the treatment of impetigo, ung. hydrarg. ammon. being popular in this country and the U.S.A. and diachylon ointment in some European countries. It may fairly be said that many cases of impetigo get well in spite of the use of ointments, and that with careful cleansing of the lesions before applying ointment successful results can usually be obtained, although it may entail daily visits to a clinic. The advantages of substituting lotions for ointments can readily be demonstrated. A weak mercurial ointment is useful when hard scabs form at night, especially in the scalp, and ung. hydrarg. nitratis dil. often heals septic fissures which are apt to persist at the angles of the mouth and just inside the alae nasi. Quinolor ointment and the sulphanilamide ointments are sometimes more effective than the mercurials, but they are rarely necessary in the treatment of impetigo.

Some patients are very susceptible to staphylococcal infection of the hair and sebaceous follicles, and since grease increases this susceptibility sycosis barbae may be a sequel to treating impetigo of the beard area with an irritating ointment.

Sycosis Barbae

This is essentially a chronic staphylococcal infection of the hair follicles, and the diagnosis is rarely established clinically before 3 or 4 weeks have elapsed. In sycosis barbae the infected follicles are a deep brownish-red colour and many of them have small pustules at their orifices through which the hair protrudes. Although commonly localized to the shaven area or even to the upper lip or chin, sycosis may involve the eyebrows, scalp, neck, and every hairy part of the body. If in addition to sycosis there is marginal blepharitis, and septic follicles in the nares, the prognosis is bad. This resistance to local treatment supports the view that the skin lesions are in the nature of pustular bacterides, and in consequence secondary to a focus of staphylococcal infection elsewhere. The focus should be sought in the nasal sinuses, tonsils, and teeth, for if focal sepsis is found and eradicated the prognosis is greatly improved.

The treatment of early sycosis barbae is that outlined for impetigo. Hairs should be manually epilated from purulent follicles, the superficial pustules expressed gently, the lesions cleansed with isotonic solutions and mild antiseptics, the skin dried, and a lotion or paint applied. The watery solutions of the dyes or the zinc and copper sulphate lotion should be tried first, and if the skin becomes too dry ichthyol cream is applied at night. Quinolor ointment has given excellent results in many cases of sycosis; it should be well rubbed into the affected areas night and morning or, better, alternated with a lotion by day. Watch must be kept against intolerance to a local application, or all the hair follicles will become inflamed and quickly pustular. *X*-ray therapy, in fractional or epilation doses and skilfully combined with the other local treatment, often produces a favourable turn in an obstinate case, but not infrequently all the present art of the dermatologist fails to cure the chronic case, which remains terribly vulnerable to the staphylococcus. Finally, a course of toxoid, vaccine, or preferably a mixture of both may do good; but often, although specific antibodies in circulation may be increased many-fold, the skin susceptibility to infection persists, and so does the sycosis.

Seborrhoeic Dermatitis

Seborrhoeic lesions are common and troublesome in war for reasons not difficult to understand. Whatever is the true nature of these conditions—and that remains controversial—the importance of constitutional factors is generally accepted. The subjects may be plump and placid or thin and nervous, but both types have moist greasy skins, have generally a liking for carbohydrates, and are always very prone to infections of their skins and mucous membranes. Nervous and anxiety states, limitation of protein and of protective foods, and restricted facilities for personal hygiene are the aggravating factors of war. The indications for general treatment therefore are clear, and it remains to consider the local conditions.

The indisputable seborrhoeic lesion is the pale pink macule which occurs on a scurfy scalp and tends to spread behind the ears and to the margins of the scalp, the midlines of the back and chest, and the folds and flexural surfaces. These lesions of seborrhoeic dermatitis are large confluent patches or discrete macules, circular, oval, or circinate in pattern, the latter suggestive of tinea circinata. The colour is a very pale pink as a rule; the lesions are irregularly covered with a soft, greasy, flaky scale, and irritation is slight or absent. Follicular papules topped by a small scale may be present on the greasy skin too, and acne vulgaris is common in the young seborrhoeic patient and rosacea in the middle-aged. This tendency to follicular lesions is further marked by a frequency of boils, indicating a characteristic susceptibility to staphylococci which probably accounts for many seborrhoeic lesions. The importance of the pityrosporon of Malassez, the organism predominant in scurf, remains doubtful, therefore, in spite of the fact that treatment of the scurfy scalp is the keystone of local therapy. For this purpose ointments of sulphur, salicylic acid, or resorcin are used to soften and remove the scales, the process being completed by a shampoo, using a 2% solution of sodium bicarbonate and a tablet of sulphur or carbolic soap. Spirit soap is very effective, but is more likely to irritate an inflamed scalp. A liniment of 5% salicylic acid in 1 part of spirit and 7 parts of castor oil, a cream of 2% ichthammol in lotio calaminae oleosa, and a lotion of 2% precipitated sulphur in calamine lotion are very useful for seborrhoeic lesions of the scalp and skin, while many of the remedies and methods used in the treatment of impetigo can be advantageously employed.

Mycotic Infections

The epidermophyton infections are by far the most common variety in war, and, since the feet are the usual sites involved, early diagnosis and effective treatment are essential. The former is usually simple, for an erosive dermatitis spreads from the toe clefts to the sole of the foot, with a circinate advancing edge of itching pustules or vesicles. The horny layer, separated

by exudation, breaks and peels off, leaving moist red tender areas. Distant groups of tense vesicles may arise in the middle of the sole, and sometimes the infection begins here. A scraping of the under surface of a vesicle mounted in 10% sodium hydroxide may reveal the fungus and confirm the diagnosis of tinea pedis.

Unfortunately, epidermophytoxin readily sensitizes the skin so that deep vesicles erupt on the soles and also on the palms, and in these vesicles no fungus can be demonstrated; nor do the lesions respond to fungicides, but usually they do resolve when the primary mycotic infection is cured. These allergic eruptions, called "epidermophytids," are clinically indistinguishable from the eczematous conditions of podo- and cheiro-pompholyx, which, like other types of eczema, clear up and tend to recur without any obvious external cause. Tinea relapses because of residual infection, often apparent in the fourth toe cleft as thick white cuticle, speckled at the sites of small vesicles. Eczematous lesions must not be treated with strong antiseptics or fungicides; hence the importance of recognizing them so that general and local sedative measures may be employed.

Pyogenic intertrigo of the toe clefts is often confused with tinea, but the septic process is more acute, the surface moist at the sites of ruptured bullae, and as a rule the infection spreads to the more delicate dorsal surfaces of the toes. Scabies may be the cause of vesicles and pustules on the feet, and from the infected lesions an extending pyogenic dermatitis sometimes resembles tinea. More rarely, pustular psoriasis or acrodermatitis perstans has to be distinguished from tinea, for in these conditions, clinically identical, groups of pustules erupt in the middle of the soles. These pustules are generally set in dry shiny red plaques suggestive of psoriasis; the contents are usually sterile, and treatment with fungicides is ineffective.

Epidermophyton infection of the groin—tinea cruris—is either secondary to tinea pedis or is acquired from infected lavatory seats or clothing and towels. As in the case of scabies and pediculosis pubis, tinea cruris may be a venereal contagion. The disease begins as small scaly pink macules, resolving in the centre and spreading centrifugally with a scaly edge so that by the time advice is sought the lesions are already circinate and the diagnosis rarely in doubt. Monilia infections are so similar that they are diagnosed as tinea; but this does not matter, because they respond to the same treatment. On the other hand, intertrigo when mistaken for ringworm is likely to be irritated by treatment with fungicides, and indeed this common lesion of the groin may be a sequel to the treatment of tinea cruris.

Intertrigo begins in the depth of a fold, as a bright erythematous patch, fading towards the edges—in contrast with the ringworm lesion. The friction of coarse woollen clothing on a moist skin often produces intertrigo of the inner sides of the thighs near or adjacent to the scrotum, and because of this location a diagnosis of tinea is apt to be made. Either of these lesions may be found in the axillae too.

Treatment of Epidermophyton Infections

The crural and axillary lesions will clear up in a week or two if treated efficiently, and a simple method is to use Whitfield's ointment—ung. acid. benzoic. co., *B.P.C.*—a little well rubbed in at night, and, after cleansing with soap and water in the morning, to apply a mild antiseptic lotion. The dilute mercurial ointments will also cure early infections, and when necessary the fungicidal effect can be enhanced by adding 4% of chrysarobin or 0.5% of derobin or cignolin. The sole use of such ointments will cure many cases of tinea cruris; but there is less chance of producing a dermatitis and the skin is more comfortable if kept dry with a lotion by day. Underclothing must be disinfected. Tinea pedis should be treated on similar lines. The strong ointments are well tolerated, and 4% of tannic acid in acriflavine lotion is useful to control hyperidrosis. Relapses are common because the fungus is protected from therapeutic agents by the thick horny layer of the sole, which is often greatly hypertrophied at the sites of infection. The trichophyton is even more inaccessible if it reaches the nail folds or under the nail-plate, where it may give rise to onychomycosis. So after an apparent cure it is important to prescribe a spirit paint for use after washing the feet. A suitable one is 0.2% of mercury perchloride and 2% of salicylic acid in surgical spirit; this should be painted around the nails and in the toe clefts for at least six months. Its use on the soles of the feet would be a good prophylactic measure. Socks must be disinfected and the insides of boots treated with formalin.

Trichophyton infections, and occasionally microsporon infections, account for tinea circinata, the common ringworm of the glabrous skin. Diagnosis is easy as a rule, and the treatment is that given for tinea cruris. The pustular ringworms give more trouble, and tinea barbae is not infrequently confused with sycosis barbae. Ringworm of the beard area presents an indurated granulomatous swelling studded with pustules. These may show a circinate pattern and thus give a clue to the diagnosis, which may be confirmed with some difficulty by pulling a hair out of a pustule and mounting it, and the pus with it, in 10% sodium hydroxide. Fungus or spores may be seen with the 1/6-in. objective under restricted illumination. The usual treatment of tinea can be applied to tinea barbae, but the hairs should be epilated from the pustular follicles. Hot compresses of 5% sodium thiosulphate or of 10% lotio calcii sulphurati are often helpful. Large doses of sodium iodide should be tried in deep and obstinate mycotic infection.

Virus Infections

Herpes simplex most commonly occurs on the face, where it is often mistaken for impetigo. The sudden eruption of grouped vesicles on an inflamed base with preceding irritation is the clue to the diagnosis. Penile herpes is not uncommon, and must be distinguished from scabies and primary syphilis.

Zoster presents similar herpetic lesions, and when seen late in a confluent pustular stage the resemblance to impetigo is close. The sharply unilateral distribution and the rapid evolution of the full eruption establish the diagnosis, and a history of preceding pain or hyperaesthesia completes the clinical picture. If pain is severe hypodermic injections of 1 c.cm. of pituitrin, or sodium iodide in doses of 15 to 20 gr. t.i.d., may give relief. Herpetic lesions of both types are best treated with 1% phenol in calamine lotion.

Warts may be just unsightly or, owing to their situation, may be the cause of disability. In either case they are a virus infection, and so are likely to spread on the individual or to infect others. Treatment, especially of the solitary wart, is a much-neglected but important fragment of preventive medicine. When warts are few in number their complete removal or destruction should be attempted. Curettage with a sharp spoon and subsequent sterilization of the crater with pure phenol is often satisfactory. Cauterization by heat or with CO_2 snow has the advantage of leaving a dry surface, and after diathermy or galvano-cautery no dressing is required. These methods appear to be radical and certain, but they are not, for the virus may be distributed more widely than the lesion indicates, and under the stimulus of the virus the interpapillary processes of the epidermis thrust deeply into the corium. The epidermal cells carry the virus with them, so that a single surviving cell presumably can account for a recurrence of the wart. Fortunately many warts disappear if they become involved in an inflammatory reaction, however slight, and this probably accounts for the successful use of *x*-ray therapy and of ionization, although considerable evidence exists of a favourable response to suggestion, which is inseparable from impressive techniques. When warts are numerous caustic paints should be used; but it is essential to pare away the thick horny cap continually, because it is resistant to most of the preparations that may safely be entrusted to the patient. Salicylic acid is a safe and effective keratolytic, and a 10% solution in collodion or spirit forms the basis of many paints for warts.

Painting is more effective if the wart is kept covered by adhesive plaster, and a resistant plantar wart may respond to this method if painted every other day with liquid phenol or 80% trichloracetic acid in water. After several paintings the thick horny cap often comes away adhering to the plaster, leaving a deep crater, which should be again painted with phenol and dressed with ung. acid. salicyl. A pencil of CO_2 snow firmly pressed on a plantar wart for several minutes

until a narrow zone of normal skin around the wart is frozen will be followed by a bullous reaction which permits the wart to be dissected away with ease in a day or two. The crater should be dressed as above. Large plantar warts may be treated with *x* rays, and success can be expected in about 80% of cases. The treatment is painless, but an *x*-ray burn is not, and must be avoided by careful dosage. A previously untreated wart may be given a single dose of 600 to 800 *r* units through 1 mm. of aluminium at a kilovoltage of 90 to 120. Pain is usually relieved quickly, and the plantar wart should disappear in a month; if it does not, the dose may be repeated, but once only. A more cautious method is to give four doses of 200 *r* at weekly intervals exactly to the wart. Should irradiation fail it is important to avoid the use of strong caustics and cauterization, but the irradiated wart can safely be pared and kept under plaster. Ung. acid. salicyl. *B.P.* may be applied within a protective ring of felt.

Diseases due to Animal Parasites

Scabies.—The diagnosis of this common and troublesome disease may be easy and certain if typical burrows are present, or it may be so difficult as to baffle the most experienced dermatologist. Burrows should be sought in the creases of the wrist, of the ulnar side of the hand, and of the palm. It is not generally known how easily the acarus or ova can be demonstrated by wetting the burrow with 5% solution of caustic soda or potash and then scraping out with a scalpel and examining the scraping under the low power of a microscope. Even if burrows are not found, an itching eruption of fine papules on the wrists, the inner sides of the arms, the axillary folds, the umbilical region, the pubic area, the inner sides of the thighs, and the ankles is almost certainly scabies, and a history of familial cases increases the probability. It should be remembered that a patient with factitious urticaria will produce urticarial lesions by scratching scabies, and in children papular urticaria is often vesicular or bullous; so is scabies, and both may show the same distribution. Lesions in the finger clefts are misleading, since cheiropompholyx, eczema, and intertrigo imitate scabies there.

Treatment of Scabies.—When many treatments are advocated to cure a disease it usually means that none of them is satisfactory, but surely the exception to this aphorism is in the case of scabies. The present spate of new methods merely emphasizes the probability that any insecticide brought into intimate contact with every bit of infected skin will cure the infection. There are three essentials to success in the treatment of scabies. First, an attack upon the stratum corneum, which shields the parasite from the insecticide and indeed provides a veritable Anderson shelter for the acari on the palms and soles. Thorough scrubbing with a nail-brush and lots of soap on several occasions is usually necessary, although the use of strongly alkaline or soapy solutions, which themselves soften and penetrate the horny layer, gives a fair measure of success without the scrubbing. But the easy way is not the best. Secondly, every part of the body must be treated with the insecticide, and it is obvious that the chance of missing small areas decreases with repeated applications. To prevent dermatitis venenata arising from treatment, a limit, determined by experience with each remedy, must be set to the number of these applications. The third essential is the disinfection of the underclothing and night apparel. Recent experiments have made doubtful the necessity for sterilizing the outer garments and bedding, but where facilities exist the extra precaution can do nothing but good. Contacts must be treated or reinfection is likely to occur.

The choice of an insecticide is dependent upon what is available, and due consideration should be given to economy. The derris root treatment described by Captain Saunders (*British Medical Journal*, 1941, **1**, 624) is clean, simple, and economical; briefly, it consists of six applications in two days of the following lotion. One teaspoonful of soap flakes to 10 oz. of a mixture of 4 oz. of derris root powder in one gallon of cold water. The lotion of equal parts of benzyl benzoate, industrial methylated spirit, and soft soap has become very popular, and the official cream is less irritating and more acceptable to the patient. After soaping, scrubbing, and bathing the benzyl benzoate lotion is painted on the wet skin and again when dry, and any residual lotion should be used up next day on the areas most involved and on the thick skin of the palms and soles. Sulphur is an excellent insecticide and is more potent in an alkaline medium. The effective but messy ointment need not be used. There are many new emulsifying bases which make non-greasy ointments and creams to which 10% precipitated sulphur may be added. For example, 7% of lanette wax added to a simple ointment enables the product to be creamed with water. Good results have been obtained with lotio calcii sulphurati diluted 1 in 10; with 10% sodium thiosulphate followed by the application of dilute hydrochloric acid; and also with precipitated sulphur rubbed into soap lather and then into the skin. When sulphur is not tolerated 10% balsam of Peru in zinc ointment will be found useful.

The reaction of the skin to these remedies is mainly follicular, and the appearance of a rash of irritating red dots marking the irritated follicles is often regarded by the patient as an extension of the scabies, so that treatment is continued and extensive dermatitis results. This should be treated with calamine lotion, to which 2% of tar solution may be added. Luminal, gr. 1/2 b.d., helps to allay the irritation of the dermatitis or the psychic itch which lingers with imaginative folk long after the infection is cured.

Pediculosis

Pediculi are often the cause of irritation of the scalp, body, and pubic area, and it is surprising how often their presence is overlooked.

Nits or pediculi in the scalp are a simple explanation of local irritation and of scratch marks across the shoulders. A lotion of phenol 3% in liq. hydrarg. perchlor. should be applied liberally to the scalp, where it will kill the lice and prevent or cure septic infection. The same lotion will allay the irritation of the scratched skin.

Pediculi corporis should be looked for when a patient has soiled underwear, especially if by habit or necessity the clothing is worn night and day. Infested patients complain of irritation of the body, and excoriations and pigmented macules are often seen. The lice are to be found concealed in the seams of the underclothing, although in severe infestation they are present on the skin too. Various insecticide powders for dusting on the clothing provide a second-best method for the control of body lice, but the obvious solution is the improvement of personal hygiene and efficient disinfection of clothing and bedding.

The crab louse, *Phthirius pubis*, gives rise to an intense pruritus of the pubic area. The infection is often a venereal one, but it may readily be acquired from infected lavatory seats. Inspection of the pubic hairs, preferably with the aid of a magnifying glass, reveals the presence of the small dark nits close to the skin. It is not so well known that *Phthirius pubis* also attacks the axillae and eyelid margins. Treatment is simple, and the phenol lotion mentioned for the treatment of pediculosis capitis will do for the pubic and axillary areas. The weak sulphur and mercurial ointments are also effective, but strong applications must be avoided. For example, ung. hydrarg. has been responsible for much dermatitis and discomfort. So has the unnecessary habit of shaving the pubic area. The liberal use of soap lather is very helpful, and no doubt a paste of it with precipitated sulphur would be an excellent remedy. The ova are less readily destroyed, but if treatments are repeated at intervals of a few days the infection is soon ended. Disinfection of the underclothing is necessary.

A plan for the abolition of coal smoke from our towns and cities within ten years from the end of the war is outlined in the autumn number of *Smokeless Air*, the journal of the National Smoke Abatement Society (temporary address: 94, Manor Green Road, Epsom, Surrey). The proposed scheme (published for discussion and not yet officially adopted by the society) is based on proposals already made for the creation of smokeless central and other special zones as a part of post-war town planning, and suggests that in each town there should be a planned stage-by-stage extension of these zones until the whole town is smokeless. The rate of progress, especially when residential areas are reached, would depend primarily upon the rate at which increased supplies of smokeless fuels and appliances become available.

HOSPITAL SERVICES AND CONTRIBUTORY SCHEMES

At the distribution meeting of King Edward's Hospital Fund for London, held on Dec. 15, the DUKE OF GLOUCESTER took the chair for the first time as President in succession to the late Duke of Kent. In his address to the Council he said that to-day there was very general agreement that whatever arrangements were made for the future of the hospital service there were features of the voluntary system which were precious and must be preserved. On the recommendation of the Distribution Committee it was proposed to distribute £280,000. The general financial position of the hospitals was better than might have been expected; the grants made by the Ministry of Health for the costs of the casualty service had helped in many cases; but a number of hospitals were finding some difficulty in meeting their expenditure. Sir EDWARD PEACOCK, in making his financial statement, said that one of the most difficult new factors to be kept in mind was the demand for capital expenditure that would confront the hospitals after the war. The King's Fund had to do its best to adjust the delicate balance between the immediate needs of the hospitals and the post-war requirements. Sir ERNEST POOLEY presented the report of the Distribution Committee with the schedule of grants recommended to hospitals and convalescent homes.

Minister of Health's Statement

Mr. ERNEST BROWN, in proposing a vote of thanks to the President, expressed his keen interest in the work of the Fund, particularly in its function as a sort of centralized bureau for promoting high standards of service among the London voluntary hospitals, and in its will to collaborate with the great municipal hospital services in the same area. The practical field work of bodies like the Fund assumed enhanced importance now, at a moment when ideas on reconstruction in the hospital and health services were being quickened, and in a country where the conception of building out of, and on to, existing practical experience was inherent in reform. The moment was particularly notable from that point of view, because of the issue of that extremely interesting, constructive, and (in the right sense) provocative contribution to the reconstruction theme—the Beveridge Report. That report was receiving a thorough review in the light of the much wider problem of reorganizing the background of individual living, which all were determined to solve. With reference to "Assumption B" in the report—"Comprehensive health and rehabilitation services for prevention and cure of disease and restoration of capacity for work, available to all members of the community"—the Minister recalled that in Oct., 1941, he had announced in the House of Commons that it was the Government's intention to secure, by means of a comprehensive hospital service, that appropriate treatment was available for all who needed it; also that it was intended to maintain the principle that, in general, patients should be called upon to make a reasonable payment towards the cost, through contributory schemes or otherwise. The Minister continued:

"On this last point the Beveridge Report recognizes that the question of patients' contributions and of contributory schemes is one which can be decided only in relation to the whole problem of the organization of hospital services, and one which will depend on the general policy found best for providing those services. While it is too early yet for me to determine the shape of that policy (I am now conducting all the preliminary spade-work and shall later be consulting the interests most concerned), no one can be more alive than I to the value of the practical work done in the past, and being done now, by the various contributory schemes; and also to their potentialities for the future—particularly if they are able to converge a little more on to more uniform paths—for example, in matters of their rates of payment to hospitals and in their readiness to extend those payments equally to any hospital, wherever situated, to which the medical needs of a patient make it desirable to send him. You have, I know, been putting a good deal of useful effort into the questions of contributory schemes in London and the better correlation of their activities. You would, I feel, be well advised to go ahead with this—perhaps particularly on the two aspects which I have just instanced—and your progress will certainly be of interest to us in considering the part which it may be found best to expect these schemes to play in any long-term hospital policy."

STATUS OF THE GENERAL SURGEON

A Manifesto from South Africa

A copy of a manifesto has been received from the Group of General Surgeons of the Johannesburg General Hospital. This body, which was set up on March 9, 1942, comprises the four honorary senior surgeons on the staff of the hospital and their first and second assistants, who are also on the honorary staff. The senior member of the surgical staff, Mr. I. W. Brebner, who is also Professor of Surgery in the University of the Witwatersrand, was unanimously elected chairman. The reasons for the formation of the group are set out as follows, and the honorary secretary states that suggestions and criticisms from readers who are interested or concerned will be welcomed.

The Johannesburg Hospital Manifesto

In centres of medical activity throughout the world, the position of the general surgeon has for long been a source of perturbation. The impression has been allowed to become prevalent that general surgery as a specialty is rapidly becoming defunct. This is not the feeling of general surgeons themselves.

The Group of General Surgeons of the Johannesburg General Hospital feels that it is expressing the views of general surgeons everywhere when it states that whatever may be the advantages of narrow fields of specialism, there are also disadvantages. There is apt to be a somewhat confined outlook and lack of broad perspective in small specialties. The one system concerned in any particular specialty is, after all, but a small part of the body as a whole, and its diseases are often considered without due regard to the whole organism. The present-day tendency to embark on specialism soon after qualifying never permits such specialists to appreciate the immense importance of the condition of the rest of the body in relation to their own small sections of it. In the teaching of students particularly the preceptor must be able to consider the whole body in relation to disease and injury and not merely a part of it.

The aims of the Group of General Surgeons are:

1. To maintain the status of the specialty of general surgery.
2. To promote the exchange of ideas between the members of the Group by the reading of papers and the showing of cases.
3. To encourage the individual general surgeon to develop a particular bent within the range of general surgery.
4. To promote closer relationships between the various specialist groups.

Finally the scope of the general surgeon is defined by the Group thus: "A general surgeon is entitled to perform that work that he and his general surgical colleagues consider he is competent to undertake."

MEDICAL DEFENCE UNION

The annual meeting of the Medical Defence Union was held under the chairmanship of Dr. James Fenton, who, during the proceedings, was elected President for 1942-3. Mr. E. D. D. Davis was re-elected Treasurer, and Dr. G. Roche Lynch was elected Chairman of the Council Committee.

Dr. Fenton referred with regret to the death of Dr. G. de Bec Turtle, which took place only a few weeks after his election as President 12 months ago. The Union, he said, had now a membership of 25,000, the highest figure, he believed, obtained by any organization of medical practitioners which restricted its activities to the British Isles. The war had not diminished litigation, and the Union was to-day spending a much larger proportion of its annual income on the defence of members than it had done in years gone by. It was well to remind doctors in general that the State and military authorities did not, except in special cases, accept responsibility for real or alleged acts or omissions of their medical officers when engaged in medical practice as members of H.M. Forces. As a rule a medical officer was required to defend the results of his own work when charged by a litigant; moreover, he might require legal protection even against the authority by whom he was employed, and might even need legal representation before a court martial. The President drew attention to the need for special care in certification; the Union had been called to defend before the courts and professional tribunals medical practitioners who had been charged with wrongful certification. It was difficult to find any justification in some of these cases, but the Union had done what it could to save members from penalties.

Correspondence

Shortage of Beds in Fever Hospitals

SIR,—Many fever hospitals have a proportion of their beds diverted for general hospital purposes; most of them are experiencing acute difficulty in recruiting and retaining an adequate nursing staff; many, particularly in "danger areas," are unable to use their all-glass isolation units. It is becoming increasingly difficult to cope with demands for beds, and it is in the hope that practitioners will co-operate by refraining from recommending hospitalization, except where this is really necessary, that I send you this note. I fully appreciate that war conditions make home nursing difficult, but I hope that practitioners and the public will realize in their turn the peculiar difficulties of the hospitals. If parents, officers in charge of camps and billets, and others involved can be assured that infectivity diminishes rapidly in most diseases after the typical rash has appeared, that susceptible contacts have therefore already been infected, that late hospitalization will do little to prevent local spread, that the risk of the conveyance of infection by healthy third parties is negligible, they will be more willing to keep the clinically mild case at home or in billet. German measles, chicken-pox, and other minor infections can only be admitted at the expense of pertussis, enteritis, and other illnesses of actual and potential seriousness. It is particularly in London, where the hospital authority has been in normal times perhaps over-altruistic in agreeing to admit non-notifiable infections, that the pressure is severe. Any help that family doctors and others can give will be much appreciated by those responsible for fever hospitals.—I am, etc.,

ANDREW TOPPING,
President, Fever Group,
Society of Medical Officers of Health.

Treatment in Psychiatry

SIR,—Recent correspondence on the subject of shock treatment in psychiatry appears to have done something to resurrect insulin therapy from the partial eclipse it has recently undergone by the advent of electric convulsion therapy. This eclipse must be partly accounted for by the quick and dramatic results that have been obtained in many cases by the latter method. Before being carried away by the virtues of either method we must admit that there are sound reasons for believing that there is a place for both in treatment, and that the ideal mental hospital should have both at its disposal. What is needed is a more careful choosing of cases for one or the other treatment. It is becoming generally recognized that certain of the melancholias, particularly of the involutional type, yield good and sometimes dramatic results with convulsion therapy. Convulsion therapy has proved disappointing in the treatment of dementia praecox, on the whole, and it may be claimed that the majority of these cases do best on insulin therapy. In those in whom depression or stupor are marked, good results are obtained by combined insulin and convulsion therapy, a point which has not been stressed by your correspondents. Time is precious in the treatment of schizophrenia, and many valuable weeks are often lost by the use of prolonged convulsions. In this connexion it is true in general that if some improvement does not occur after the first two or three convulsions it is best to proceed straight to insulin therapy.

Yet, despite the acknowledged value of insulin, its use has diminished since the war began. This may be attributed to the difficulties of obtaining sufficient sugar, and to the reduction of mental hospital staff. We have recently shown (Sandison and McGregor, *J. ment. Sci.*, July, 1942, p. 387) that the use of the intravenous insulin treatment avoids the wartime problem of sugar. By shortening the time of daily treatment and its freedom from complications it enables the nursing and medical staffs to do more work in other departments. In more than one mental hospital this technique is now being used with success.

Dr. William Sargant (Nov. 28, p. 648) brings statistics to his aid in support of insulin. However true his deductions may be, statistics must be treated with caution in psychiatry. The diagnosis of early schizophrenia is notoriously difficult, and many so-called remissions occur in patients who were probably depressives or even psychoneurotics.

In conclusion, convulsion therapy fails to give such good results in many centres because of the lack of prolonged personal supervision which is inherent in insulin therapy and so valuable to the schizophrenic. I should like to sum up with a plea for the introduction of both forms of treatment in every centre, the wider use of combined therapy, and for greater nursing supervision of those undergoing convulsion therapy. Insulin should be given by the intravenous technique.—I am, etc.,

R. A. SANDISON,
Flying Officer, R.A.F.

Child Health

SIR,—With reference to the letters of Dr. J. Burnet (Nov. 21, p. 616) and Dr. Eva McCall (Dec. 12, p. 708) I desire to state that we doctors in the health services have an outlook toward disease that may be somewhat different from that of our colleagues who are specialists in treatment. It appears to us that there is a great waste of talent and ability on repairing bodies damaged by disease due to causes which, figuratively speaking, issue from conduits the taps of which might be turned off, and on treating established maladies rather than finding and checking them in their beginnings as slight disorders of function.

We would therefore ask our colleagues in high places to join with us and with research workers through some suitable organization (like that of the health centres proposed in a State Medical Service) to attack disease in a resolute and rational manner, provided, of course, it isn't the seeking for profits but human welfare—a more worthy object for a great profession. (Fuller details of what is meant will be found in a résumé of an address given by me to the Derbyshire Branch of the B.M.A. in June, 1938, and published in the *Journal*, Jan. 8, 1939, p. 45.) Those who are disposed to adopt this view might be interested in the Child Health Planning Group Movement, for details of which I refer readers to the general secretary, Dr. Kershaw, Medical Officer of Health, Accrington, Lancashire.—I am, etc.,

Glossop. E. H. M. MILLIGAN.

The Dysentery Carrier

SIR,—In his letter (Nov. 21) Dr. Ian Taylor refers to dysentery: its notification in peacetime and wartime, and the marked upward tendency during the last years. For good reasons Dr. Taylor explains the greater frequency partly by the improved means of bacteriological investigation; it is indeed a remarkable advance which has been achieved by the research work of the last years. Again, the discoveries of Leifson, Hynes, and the workers in the E.P.H.L. Service have resulted in the use of new and very effective culture media for growing the causative agents of bacillary dysentery. But in spite of these remarkable advances there remains still a disproportion between clinical evidence and laboratory confirmation. Before and at the outbreak of the last war, when the difficulties in obtaining exact results from faecal cultures were so pronounced, we had in the early diagnosis of bacillary dysentery to look for other means of help. In my studies on procto-sigmoidoscopy I (1906) emphasized the value of ocular inspection in this respect, and advocated (*Med. Klin.*, 1914, **44**) that this method should be made obligatory. In obtaining material for bacteriological examination directly from the affected parts through the endoscope positive results rose to as much as 60 and 100%.

The insidious and tenacious character of dysentery may be recognized by the fact that often in apparently healthy patients with normal motions the speculum discloses still active ulcers in the lower intestine; this proves that the endoscopic examination is not only a great help to diagnose the beginning of the disease but also to ascertain that the patient is really cured. By omitting this control we risk missing carriers who without any knowledge of their condition become a permanent danger to the community. This is but one aspect of the matter of detecting and controlling carriers. There are other sides to this problem, such as the controversial question where the germs are lodged in chronic infections—in the liver, in the intestinal wall, or in both. The prophylaxis of chronic and endemic forms of bacillary dysentery includes still the question under which symptoms insinuating or attenuated infections become manifest.

In my view some of the cases of so-called "idiopathic" ulcerative colitis are originally caused by germs of bacillary dysentery.

I completely agree with Dr. Taylor that scrupulous hygiene is a strict necessity, but in conformity with this there are still some unsolved questions or matters under discussion which we hope will be fully explained with the help of recent researches.—I am, etc.,

GUSTAV SINGER, M.D.,
Emeritus Professor of Vienna University.
Sanderstead, Surrey.

Sulphonamides for Gonorrhoea

SIR,—Apropos the correspondence on sulphonamides for gonorrhoea, it is worth while drawing attention to an investigation made by Towsky *et al.* (*J. Lab. clin. Med.*, 1942, **27**, 1001) in which sulphapyridine, sulphathiazole, and sulphadiazine are compared. The cure rates were (excluding defaulters) 92%, 96%, and 93% respectively, between which there is no significant difference. The rates for defaulters, however, are: for sulphapyridine 28.8%, for sulphathiazole 9%, and for sulphadiazine 3.5%; if the defaulters are counted as failures the cure rates then become 65.5%, 87%, and 89.5% respectively. Toxic reactions were: sulphapyridine 75%, sulphathiazole 11.5%, and sulphadiazine 8.8%. To effect a cure the average dose required was for sulphapyridine 23.5 g. in 8 days, for sulphathiazole 28 g. in 8 days, and for sulphadiazine 17.5 g. in 8 days. The authors conclude that sulphapyridine "would better not be used in the treatment of gonorrhoea in the ambulatory patient," and that "it would seem that sulphadiazine is a valuable drug in the treatment of gonorrhoeal urethritis."

Recent experience in this hospital emphasizes the value of sulphadiazine in various acute infections, such as a severe staphylococcal septicaemia uninfluenced by a week's treatment with sulphathiazole but responding immediately to sulphadiazine. It is unfortunate that there is difficulty at times in obtaining this drug. There appear to be good reasons why sulphanilamide and sulphapyridine should no longer be used when the newer drugs are available.—I am, etc.,

Pathological Department,
Royal Infirmary, Bradford.
C. J. YOUNG.

SIR,—Col. L. W. Harrison (Dec. 5, p. 677) has interpreted my remarks wrongly. I did not question his statement that in the great majority of men who present themselves for treatment within 4 days after coitus sulphathiazole eradicates the disease within a few days—the length of treatment required apparently depending on the virulence of the causative organism. I am convinced of this from my own very limited experience. But what I am querying is the necessity for using expensive, and to some extent dangerous, drugs in very early cases, when the same result can be achieved by simple irrigation.

Gonorrhoea is caused by the deposition of gonococci in the mouth of the urethra. The diplococci lie deposited on the surface for 2 or 3 days before causing any visible signs of inflammation or discharge. If immediately after intercourse a man micturates and bathes the penis and particularly the mouth of the urethra with hot water and soap, he washes off all gonococci and escapes infection. (The above is especially true if he inuncts himself before and after intercourse with 33% ung. hydrarg. subchlor.) After the lapse of a few hours syringing the anterior part of the urethra with weak permanganate solution is enough. Later on, up to the 4th day, injection (t.i.d.) of 20% argyrol, which is retained in the urethra with forcipressure for 10 to 15 minutes, is enough. When this period is over and gonococci have penetrated into the deeper layers of the mucous membrane, when the desquamation of that membrane—as indicated by the flow of thick pus—is going apace, and the inflammation is rapidly advancing along the whole length of the urethra (taking about 7 days to spread to the prostate), no antiseptic that we know of can penetrate the necrotic mucous membrane, and we have to rely either on the establishment of natural immunity (as in olden days), which takes on an average 10 weeks, or on the administration of sulphathiazole, which effects a cure in these advanced cases in 2 or 3 weeks—not 2 or 3 days.

Sulphathiazole and sulphapyridine are wonderful remedies, but why employ them in very early cases when simpler methods are equally useful, less expensive, and less dangerous?

Since writing my note (*Journal*, Nov. 21, p. 617) I have consulted the latest edition (1941) of the *Extra Pharmacopoeia*, and there in vol. i on p. 946 I find Col. Harrison's earlier advice (not to use sulphonamides for 3 weeks) given in full as a warning to intending users of this group of drugs in early cases. Certainly it is advisable for authorities like Col. Harrison—to whom humbler practitioners like myself look for advice and guidance—to issue a public recantation of their earlier views whenever such views undergo a revolutionary change.—I am, etc.,

M. R. SONI.
Manchester.

Service Cases of Venereal Disease on Demobilization

SIR,—With reference to the letter from Drs. David Erskine and V. E. Lloyd (Nov. 21, p. 617) on the need for the prevention of temporary or permanent default from treatment in Service patients discharged from the Army after the armistice, may I make additional suggestions.

I suggest that *all* members of the Services and the Civil Defence organizations should undergo a Wassermann and a Kahn test before discharge to civil life. There are three main reasons for this suggestion. First, there are bound to be syphilitic infections that have escaped the notice of both the medical officer and the patient. Secondly, it will save a great deal of annoyance and expense when wound pensions come to be granted, both in the immediate post-war period and later; and, finally, it gives us the golden opportunity of doing mass blood tests on the great majority of that portion of the population on whom the country will depend in the difficult years to come. This could prevent some of them becoming those patients with tertiary syphilis who are never even aware that they are diseased, and who will eventually become a liability rather than an asset to the community. Those found to be infected could then be warned of their condition, and told of the need for treatment. Obviously, only a small proportion of these cases would go to a treatment centre, public opinion and ignorance of V.D. being what it is. It is up to us to start a widespread fearless and informative publicity campaign immediately, so that public opinion will not prevent these people from seeking treatment when they are demobilized.

Only if we make the most of this opportunity shall we be able to prevent the increased incidence of congenital and tertiary cases later on, as well as the epidemic of early syphilis which Drs. Erskine and Lloyd have warned us will follow demobilization of specific cases who do not continue treatment.—I am, etc.,

PHILIP SILVER.
Grimsby.

Stilboestrol and Deep X Rays for Sarcomatous Metastases

SIR,—Prompted by your annotation in this week's issue (Nov. 28, p. 641) on the use of stilboestrol in the treatment of cancer of the prostate, I am sending you the following account of a case which is, I think, noteworthy, inasmuch as a large metastatic deposit from an osteogenic sarcoma of pleomorphic cell type has almost entirely disappeared following a course of deep *x*-ray therapy combined with the injection of stilboestrol in comparatively large doses.

The patient was 18 years old when first seen at this centre on March 4, 1941. She had a tumour of the upper end of the tibia, showing irregular absorption and sclerosis of bone. An intensive course of deep *x*-ray treatment was given to the tumour but no response occurred, apart from relief of pain, and radiographs showed that bone destruction was continuing. Consequently the leg was amputated at the junction of the middle and lower thirds of the femur on Oct. 21, 1941. Healing occurred without incident and all looked well until June, 1942, when she was found to have a lump in the groin, 6 cm. in diameter. Deep *x*-ray treatment was given to this metastasis in July, and, as in the case of the primary growth, no response took place and the mass began to ulcerate in August. As a last resort it was decided to try the insertion of radium needles, but before this could be done serious haemorrhage began from involvement of the femoral vessels or their branches. Consequently the external iliac artery was ligated on Sept. 14.

From consideration of the known properties of stilboestrol, its actions and molecular structure, I decided to try the effect of administering it in conjunction with deep *x*-ray treatment.

The result has been striking. The huge fungating tumour has gradually disappeared, leaving a remarkably clean cavity, in parts of the walls of which a small amount of tumour tissue is still present, and the process of healing is continuing. The ulcer, which was at one time 8.5 cm. in diameter, has decreased to 3.5 cm. × 5 cm. Another extraordinary feature of the case is the sharp definition of a metastatic deposit in the lungs. A curious pyrexia has been observed. After an initial fall, the temperature rose gradually to a maximum of 101° F. and then fell again, equally gradually, the whole cycle of pyrexia extending over a fortnight.

The initial dose of stilboestrol was 5 mg. intramuscularly daily for one week, increased to 7½ mg. daily for twelve days, when, owing to the development of the pyrexia, it was discontinued. After a fortnight the stilboestrol was recommenced, 10 mg. being given intramuscularly daily for 22 doses. The *x*-ray treatment given to the metastatic deposit was 200% S.E.D. in 17 days at the surface of the tumour, the depth dose at the deeper parts being 85%. The patient's general condition has improved recently; the temperature has fallen to normal and she is putting on weight.

The points of special interest are: (1) The primary growth is an osteogenic sarcoma and the pathological examination shows it to be a spindle-celled growth but with marked pleomorphism of the cells. (2) The primary growth did not respond to irradiation, as shown by repeated *x*-ray films. (3) The metastatic deposit also did not respond to *x*-ray treatment until this was combined with stilboestrol injections.

I am treating another patient, who has an osteochondrosarcoma of the femur with recurrence in the stump, in a similar way, and although the effect is not so striking I think some slowing down of the rate of growth of the tumour has taken place. I am loath to publish reports of cases which may be premature and where sufficient time has not elapsed nor a sufficient number of cases treated to establish the value of any treatment with certainty, but deep *x*-ray work has come to a complete standstill at this centre on account of lack of supplies, and there may be no possibility of my resuming the investigation for some considerable time. As will be seen, the amount of *x*-ray treatment is below the maximum tolerance dose, and it may be that the metastatic growth in the lungs might be equally responsive to treatment.

In view of the fact that the workers mentioned in your annotation have used stilboestrol alone I may be permitted to add that I think the regression in my case was due to the combined effect of irradiation and stilboestrol, and the effect may not be specific, and may well apply to other radio-resistant tumours.—I am, etc.,

Regional Radium Centre, North Staffordshire Royal Infirmary. GEORGE G. BINNIE.

Phosphorus Poisoning from Bullet

SIR,—It was with great interest that I read of the case of Mr. A. J. Blaxland (Dec. 5, p. 664), as I had a similar case a short time ago.

This was an engine driver, aged 55, who was machine-gunned and wounded by a 'plane returning from the Canterbury raid. He had a perforating wound of the abdomen, the point of entry being just above the left anterior superior spine. *X*-ray examination showed a part of the bullet casing high up in the abdominal cavity. On exploring the wound it was immediately noticed that the whole track was smoking profusely when exposed to the air. A white vapour, which was extremely irritating to the nose and eyes, issued from all the damaged tissue. The bullet casing was found in the cavity of the stomach, having penetrated the transverse colon and the greater curvature. All the smoking tissue was excised and the wounds of the intestine and stomach were closed. The abdominal cavity was swabbed out; sulphonamide powder was applied and the wound in the abdominal wall was closed, drainage being effected by a suprapubic tube. The post-operative condition was satisfactory. He was given intravenous plasma followed by glucose and saline. He made good progress at first, but soon began to develop a severe toxaemia with anuria. Coma supervened, and he died on the fifth day after operation. At no time during this period was there any suggestion of peritonitis. He had no vomiting and his bowel action was normal.

At the time I felt the patient had succumbed to some toxic process which in all probability was phosphorus poisoning. Unfortunately a post-mortem examination was not possible.—I am, etc.,

Folkestone. J. W. D. BUTTERY.

Saline Laxatives in Dysentery, etc.

SIR,—I hope Col. Hamilton Fairley, who will recall making much use of my pathological slides after the last war, may be interested in the comment that his remark (Dec. 5, p. 673) "magnesium sulphate treatment should not be continued over too long a period, as it sometimes tended to keep up the diarrhoea" suggests that the dosage of magnesium sulphate has been too small. It always seems a paradox that sodium and magnesium sulphates should be used in the treatment of dysentery, and the paradox is increased by the fact that formed stools are frequently passed even while large doses are being given. I have frequently had to order other laxatives when patients were taking 1 oz. or more of magnesium and sodium sulphate in the 24 hours, and have even seen crystals—presumably of magnesium sulphate—sparkling in the motion.

The fact seems to be that the intestinal canal can quickly accommodate itself to high concentrations of cathartic salines—witness the man who for years took 2 oz. of solid magnesium sulphate every morning—and the curative effect of salines in dysentery is probably to be attributed to this power. This property, if judiciously used, enables us to apply what is, in effect, continuous hypertonic saline treatment to the ulcerated areas, which presumably, like other ulcers, do not have this power of adaptation. At the start of treatment there is the usual cathartic flush of fluid, which sweeps away the tenacious mucus that is largely responsible for the pain and tenesmus, and it will do this for both types of dysentery. The amoebic ulcers, however, will not heal because of the amoebae deep in the mucosa, but continuing with a sufficient dosage of salines will usually lead to healing of the bacillary type, just as hypertonic saline leads to healing of other infective ulcers.

While this view is largely theoretical, though supported by reading and experience, it has a bearing on two clinical problems of first-class importance. If it is correct a similar saline treatment should be effectve in typhoid fever. If applied early enough it should lead to healing of the ulcers before formation of the sloughs, it should certainly check the profound toxaemia, and, incidentally, allow food to be taken without harm. Unfortunately, I had left the Near East before this idea occurred to me, so I could not make any clinical observations on the matter, but I feel sure it is well worth trying. The other clinical application I would suggest is that it ought to be possible to apply hypertonic treatment to gastric and duodenal ulcers also. Here, however, there is no real need to have a hypertonic solution of an unabsorbable substance, as we must if we wish to treat the lower bowel. Frequent doses of fairly concentrated glucose would seem to be an attractive method of treatment. Sugar is an old and also effective treatment for ulcers, and probably acts largely on the hypertonic principle. Glucose would afford the gastric ulcer case much-needed nourishment, and the thirst which would probably ensue could be relieved by ice and rectal salines. Probably other foodstuffs could soon be taken along with the glucose without much, if any, danger.—I am, etc.,

Winsford, Cheshire. W. N. LEAK.

Teaching First Aid

SIR,—May I be allowed heartily to endorse Dr. E. W. Adams's plea (Dec. 12, p. 707) for a common textbook for the teaching of first aid. The very fact that the differences in the two books of the St. John Ambulance Brigade and the Red Cross are nearly all in matters of detail makes it all the more difficult to remember them, and that same fact should make it easy for the societies, with a little mutual good will, to evolve a common textbook. They might at the same time take their courage in their hands, cut out some of the elaborate methods, and teach real emergency practical first aid: such quick and efficient ways have come to light under recent stress. For example, when the 8-bandage method for fractured femur was evolved the importance of treating the patient rather than concentrating only on the lesion, with the consequent increase in shock, had not been realized. It is also rather

typical that three methods of treating fractured clavicle are given in the Red Cross manual with a rather apologetic note that the third method is the best; why not put the best method first and cut out or at least refer shortly to the other two? The treatment of fractured jaw, again, is, in most surgeons' opinion, not only out of date but dangerous. I refer to the bandage pulling the jaw backwards. It is worse than silly that we should be expected to teach such things for examination purposes.

I speak as a teacher of first aid from both manuals of over 25 years' experience.—I am, etc.,

Chippenham. GEO. LAURENCE.

Blood Pressures after Injection of K Salts

SIR,—In the course of some work on stimulants of the autonomic nervous system we have repeated as faithfully as possible Dr. Lena Stern's treatment for shock as described in the *Journal* of Nov. 7 (p. 538). We chose three psychotic patients who were not shocked and had no marked disturbance of the vegetative nervous system; thus the results may not be comparable but are still of interest. Eleven cisternal punctures were performed on the three patients—five on one, four on a second, and two on the third. We obtained a definite primary rise in blood pressure on one occasion only, from 160/85 to a maximum of 240/105 in four minutes by the injection of the potassium phosphate made up to the strength and *p*H described and kept in neutral glass. The pulse rate fell from 92 to 50 in the same time, though the beat was stronger than beforehand. Our complete results on the blood pressures and pulse rates were as follows:

Case 1

	Time(min):	0	3	8	11	13	15	18	20	26
A	B.P. ..	165/90	95/50	120/60	135/70	145/70	145/70	140/70	135/65	120/60
	Pulse ..	100	55	60	80	78	80	82	64	60

	Time:	0	2	4	6	11	16	19	28
B	B.P. ..	180/90	180/80	140/75	140/75	185/80	210/95	205/95	190/90
	Pulse..	78	56	56	56	60	—	78	76

	Time:	0	3	4	10	13	25
C	B.P. ..	170/80	75/35	90/40	85/40	105/55	155/75
	Pulse ..	74	—	52	—	56	84

	Time:	0	4	8	15	25
D	B.P. ..	160/85	240/105	185/65	170/90	180/80
	Pulse ..	92	50	54	58	68

	Time:	0	1	2	4	6	9	14
E	B.P. ..	160/85	125/55	80/35	85/35	110/50	145/70	170/80
	Pulse ..	98	78	60	60	58	64	68

Case 2

	Time:	0	2	5	9	17	24	35
A	B.P. ..	150/95	155/95	140/90	150/95	125/85	130/90	125/85
	Pulse ..	72	120	128	116	108	100	100

	Time:	0	4	15	25	38
B	B.P. ..	125/75	135/90	115/75	125/80	120/75
	Pulse ..	78	92	79	80	82

	Time:	0	3	7	22	29
C	B.P. ..	140/85	150/90	130/75	135/85	130/85
	Pulse ..	88	100	88	84	76

	Time:	0	2	10	15	20	28	33	37	50
D	B.P. ..	145/90	125/80	115/75	115/75	125/80	145/90	120/80	125/80	110/75
	Pulse ..	76	95	92	80	76	64	64	62	66

Case 3

	Time:	0	4	7	13	18
A	B.P. ..	135/75	115/80	140/80	120/70	125/70
	Pulse ..	72	68	80	76	74

	Time:	0	3	6	18
B	B.P. ..	125/70	135/75	140/85	120/80
	Pulse ..	76	88	76	—

Among the other changes observed when the solution was injected under "definite pressure" were sweating, nystagmus, headache, vomiting, and on one occasion hiccup. It appears that the treatment must be undertaken with considerable caution in view of the fact that there may be indications of medullary shock. It is of note that the respirations altered very little, even when the other symptoms were pronounced.—We are, etc.,

JOHN A. AINSLIE.
E. CUNNINGHAM DAX.

Netherne Hospital, Coulsdon.

Scientific Journals for Enemy Prisoners of War

SIR,—In response to letters in the *New Statesman and Nation* (July 18, 1942), *Nature* (Oct. 3, 1942), and the *British Medical Journal* (Oct. 17, 1942), 58 people have so far sent 2,170 reprints and journals and 34 books on academic and technical subjects for the use of scientists and medical men who are enemy prisoners of war in British hands. Nearly all the papers have been classified according to subject. The special interests of prisoners at the various camps are known, and parcels containing 956 papers and journals have already been sent to 32 camps. So far only a small part of the demand has been met.

Those who are willing to contribute reprints, journals, or books on scientific, technological, medical, or mathematical subjects are asked: (1) to address parcels to me at the address given below; (2) to write their own names and addresses on the *outside* of their parcels with the letters "S.P.P." (which stands for "scientific papers for prisoners"); (3) to use plenty of packing paper if it is available (a lot is needed in repacking parcels according to the needs of the various camps, and all will eventually be salvaged); and (4) to be patient in waiting for acknowledgments of parcels sent (as the classification, packing, and correspondence are done by my wife and myself in such time as is not occupied with work and civil defence).

The S.P.P. organization, which has the approval of all the authorities concerned with the welfare of enemy prisoners of war, works through Mr. J. W. Barwick of the War Prisoners' Aid section of the Y.M.C.A.—I am, etc.,

Burnt Oak, Kidlington, Nr. Oxford. JOHN R. BAKER.

Obituary

The death took place at York on Nov. 10 of Dr. ELISABETH SARAH MARPLES SYKES, for some years assistant medical officer and radiologist at the West Riding Mental Hospital, Wadsley, near Sheffield, and afterwards at Storthes Hall, near Huddersfield. She was the youngest daughter of the late Rev. W. Sykes of Sheffield, and Dr. Annie Dodgson Rayner of Bournemouth is her sister. Dr. Elisabeth Sykes studied medicine at Sheffield and graduated M.B., Ch.B. of the University in 1925; before entering the mental hospital service she held the post of extra-mural assistant honorary physician to the Royal Hospital, Sheffield. She joined the British Medical Association in 1927 and was a member of the Royal Medico-Psychological Association and the Medical Women's Federation.

Dr. IVOR LLOYD TUCKETT of Cowes, Isle of Wight, died on Nov. 28. He was born in London on Feb. 1, 1873, the son of Philip D. Tuckett, and after eight years at Marlborough College went up to Trinity College, Cambridge, and then to University College Hospital. He qualified M.R.C.S., L.R.C.P. in 1898 and returned to Cambridge to become senior demonstrator of physiology and assistant to the Downing Professor of Medicine. He was elected a Fellow of Trinity, and proceeded M.D. in 1910. Before leaving London he had been house-physician at U.C.H., and his interest in ophthalmology began while house-

surgeon at Moorfields. He joined the B.M.A. in 1912, was chairman of the Isle of Wight Division, and president of the Southern Branch in 1937-8. F. C. E. writes: By the death of Ivor Lloyd Tuckett we are bereaved of an outstanding personality and intellect. His researches on the functions of the pancreas in diabetes—starting on the trail which afterwards led Banting to insulin—made us all expect for him a career of brilliant fruitfulness. But, alas! he had driven himself too hard, and a nervous breakdown compelled him to limit himself to ophthalmic practice in the Isle of Wight. He was greatly interested in psychology and submitted himself to analysis. Always a fearless crusader after truth, he published in 1911 a book, *Evidences for the Supernatural*, in which his skilful pen and critical insight usefully exposed a great deal of nonsense and humbug. This reappeared later in a cheap edition. An inheritor of modest wealth, his chief pleasure was in sharing its amenities with others and in generously helping the less fortunate. Cruising and racing in small yachts was his principal hobby, and he won several of the coveted trophies at Cowes. There will be many, like myself, who mourn the irreplaceable loss of a wonderful friend with a delightful sense of humour all his own.

Dr. JOHN PERCIVAL BROWN of Bacup, Lancs, died on Nov. 30. Born at Bacup in 1878, he was educated at Manchester Grammar School and Victoria University, Manchester, graduating M.B., Ch.B.Vict. in 1900. After holding resident posts in Manchester and Macclesfield, he joined his father, the late Dr. John Brown, in general practice. The remainder of his life was devoted exclusively to service in his native town, until failing health compelled him to cease work twelve months ago. In 1913 he succeeded his father as M.O.H. for Bacup, a position which, between them, they held for fifty-four years. He was a member of the B.M.A. for over forty years. Dr. Brown was a corps surgeon in the St. John Ambulance Brigade, and was actively interested in the movement since the formation of the local divisions about fifty years ago. In 1926 he was appointed an Officer of the Order of St. John. During the last war he did valuable Red Cross work. Throughout his life Dr. Brown was keenly interested in historical medicine and legal medicine, and he rarely missed a meeting of the Manchester Medico-Legal Society, of which he was a member. He is survived by his wife, two daughters, and a son, Surg. Lieut. Douglas J. A. Brown, R.N.

We regret to announce the death at the age of 51 of Dr. MELVILLE ST. CLAIR HAMILTON of Tiverton. He was the youngest of three brothers, all of whom followed their father in the medical profession, and at the outbreak of the last war he was studying at St. Thomas's Hospital. After qualifying M.R.C.S., L.R.C.P. in 1916 he was accepted for a regular commission in the R.A.M.C., serving in France, and later in Italy and Turkey, also with the Army of Occupation and with the Expeditionary Force at Archangel. In 1923 he resigned his commission through ill-health, but after long treatment was able to resume work and practised in North Wales until he joined his brother, Dr. A. Keith Hamilton, at Tiverton, where he showed keen and practical interest in many local organizations. During the present war he acted as M.O. to the 20th Devon Battalion of the Home Guard, and undertook the task of organization and instruction with characteristic thoroughness.

We regret to record the death of Dr. JOHN ORLANDO SUMMERHAYES of Newhaven after an operation in London. Born at Ealing on Feb. 7, 1869, the son of William Summerhayes, M.D., he was educated at Yarmouth Grammar School and St. Mary's Hospital, qualifying as M.R.C.S., L.R.C.P. in 1891. In 1898, after holding several appointments, he went out to India as surgeon-in-charge of the C.M.S. Hospital at Quetta, returning eight years later to practise at Thame. Summerhayes had a distinguished record in the Territorial Force: he had been medical officer to the 1/4 Oxford and Bucks Light Infantry and went out to France as lieut.-col. R.A.M.C.(T.F.) commanding a field ambulance and won the D.S.O. for gallantry and devotion to duty. Soon after the war he was in charge of a special military mission to prisoners of war in Austria, Hungary, Czechoslovakia, and Silesia. After returning to civil life at Thame he served as chairman of the Oxford Division of the B.M.A. in 1923-4, and president of the Oxford and Reading Branch in the following year. He then moved to Newhaven, where he built up a large practice and became police surgeon and medical officer to the local infirmary. He was elected to the East Sussex Insurance and Panel Committees and had served as chairman of the former since 1934. His colleagues of the Brighton Division of the B.M.A. elected him their chairman in 1932. At headquarters in Tavistock Square he had been a member of the General Medical Services Scheme Committee and of the Naval and Military Committee.

The death is announced from Moscow of Prof. MAXIM KONCHALOVSKY, president of the All-Union and Moscow Therapeutic Association and of the All-Union Association for the Study of Rheumatism, and also vice-president of the International League for Combating Rheumatism. Prof. Konchalovsky took part in international congresses in Paris, Brussels, Budapest, and Moscow, and was a leading member of the Scientific Medical Council of the People's Commissariat for Health Protection of the U.S.S.R. He published some 200 works, including textbooks, monographs, and scientific articles.

The following well-known medical men have died abroad: Prof. HEINRICH FINKELSTEIN, at Santiago, Chile, the eminent Berlin paediatrist, author of a work on diseases of infants, and honorary Fellow of the Royal Society of Medicine, aged 76; Dr. MANUEL CORACHAN, professor and director of the Institute of Experimental Surgery at the University of Caracas and author of works on gastric surgery, arthropathy, and arteriography, aged 62; Dr. GEORGE W. HALL, clinical professor of neurology at Rush Medical College, Chicago, from 1925 till his death, aged 72; and Dr. ALFRED S. TAYLOR, professor in operative surgery at the College of Physicians and Surgeons, New York, aged 73.

The Services

DEATHS IN THE SERVICES

We much regret to announce the death at the ripe age of 85 of Lieut.-Col. DIROM GREY CRAWFORD, the historian of the Indian Medical Service. He was born in 1857, during the Indian Mutiny, at Chinsura in Bengal, took his medical degree at Edinburgh University in 1881, and gained a high place in the entry for the Indian Medical Service the same year. After the necessary short and uneventful period in military employ, he joined the Bengal Medical Department in 1884 and remained in that Province for the rest of his service, mostly as civil surgeon of the Hugli District, a little north of Calcutta and near his birthplace. In 1903 he published *A Brief History of the Hugli District* and the *Hugli Medical Gazetteer*. He was a sound civil surgeon with a special aptitude for administrative work, and it was unfortunate that he had to retire under the age rules without attaining to administrative rank. During the war of 1914-18 he served at home in hospital ships, was mentioned in dispatches, and was awarded a star and two medals—the only recognition he appears to have received during his long service. Crawford's great occupation in life was historical medical research. His interest in the subject was aroused as early as 1884, when he was resident surgeon at the Calcutta Medical College Hospital, by an article on "Surgeons in India, Past and Present," by Norman Chevers, who was himself the author of the classical *Commentary on Diseases of India*. Crawford began to collect further names, and in time added some 250 to the old list, which covered seventy-four years. He never ceased work at it until the publication in 1930 of his monumental *Roll of the Indian Medical Service 1615–1930*. In 1901 he began another great task by undertaking, at the request of the then editor of the *Indian Medical Gazette*, Major W. J. Buchanan, I.M.S., to write a yearly article entitled "Notes on the History of the I.M.S." In 1914 these chapters, with considerable additions, were published in two handsome volumes as a *History of the Indian Medical Service*. This comprehensive work goes back to the surgeons of the sixteenth century who visited India, and it was only rendered possible by Crawford devoting much of his leave home to studies of the dusty records at the India Office with an assiduity given to few to emulate. All this work eminently qualified him to write accurate and terse obituary articles on his brother officers for the *British Medical Journal* for over twenty-five years, a labour of love in which he can never be equalled. Crawford was a man of the most modest and retiring nature and, although his erudition was universally admired, he had few intimate friends. Those who knew him best had the highest opinion of his good qualities, and some thought that his classical education, wide knowledge, and remarkable powers of application would have found greater scope in the Indian Civil Service; but his brother officers of the I.M.S. are proud to regard him as one of their most erudite members. Although extremely modest as regards his own achievements he was quick to notice and encourage scientific and other work by younger members of his Service. Another of his interests was the collection of all books, medical and non-medical, published by I.M.S. officers. A few years ago he gave this unique and valuable collection to the Royal

Society of Tropical Medicine and Hygiene, in whose library they are preserved together in a separate bookcase for future reference. Crawford never fully recovered from the shock of the loss of his wife only a few years ago, and although he continued to attend the annual I.M.S. dinners up to the time of their cessation during the present war, his health and his sight were observed to be failing. It can truly be said that we shall never see his equal again in the field he made for himself, but he so completely fulfilled his self-allotted medico-historical task that he has left nothing for a successor to do, except it be to write the obituary notice of the Indian Medical Service with the approaching abrogation of British rule in India, not the least of the benefits of which rule has been the work of the I.M.S., of which Crawford was an ornament.

Surg. Cmdr. ELYSTAN GLODRYDD EVELYN O'LEARY, R.N. (ret.), died at Newtonmore, Inverness-shire, on Nov. 8. He took the M.R.C.S., L.R.C.P. in 1894 and the F.R.C.S.Ed. in 1907. Entering the Royal Navy soon afterwards, he attained the rank of surg. cmdr. in 1912, and retired nearly 20 years ago. He served throughout the war of 1914–18, receiving the medals.

Col. ROBERT REGINALD HEBER MOORE, C.B.E., late R.A.M.C., died at Cheltenham on Sept. 27, aged 84. He was born at Liverpool on April 8, 1858, son of the Rev. Canon Thomas Moore of Midleton College, Co. Cork, and was educated at Trinity College, Dublin, where he graduated M.D., B.Ch. in 1890, having qualified L.M., L.Ch. in 1881. Entering the Army in 1883, he became lieut.-col. after twenty years' service, and retired in 1912. He rejoined for service during the war of 1914-18, when he was employed as D.A.D.M.S., Eastern Command, and was given a brevet colonelcy in 1917. He was appointed a C.B.E. in 1919.

Lieut.-Col. FREDERICK GEORGE FAICHNIE, R.A.M.C. (ret.), died in London on Oct. 30. He was born in India on May 30, 1870, was educated at University College, London, and took the M.R.C.S., L.R.C.P. in 1890. He entered the Army in 1892, became major in 1903, and retired in 1912. He served on the North-West Frontier of India in 1897-8 (medal with clasp) and throughout the South African War of 1899-1902, when he took part in the relief of Ladysmith, including the actions of Spion Kop, Tugela Heights, Vaalkranz, also in operations in the Orange River Colony, Transvaal, Cape Colony, and Natal, including Laing's Nek. He was twice mentioned in dispatches and received the Queen's medal with five clasps and the King's medal with two clasps. During the war of 1914-18 he was recalled for duty and served as assistant officer in charge of R.A.M.C. records, with the rank of lieut.-col. He was a brother of the late Col. N. Faichnie, R.A.M.C., and leaves a widow.

Major-General ALEXANDER WILLIAM MONTGOMERY, C.B., I.M.S. (ret.), died suddenly on Dec. 2. He was born on April 4, 1881, and studied medicine at the University of Edinburgh, graduating M.B., Ch.B. in 1902. In the following year he entered the I.M.S. as lieutenant, was promoted captain in 1906, major in 1915, lieut.-colonel in 1923, brevet colonel in 1926, substantive colonel in 1932, and major-general in 1935. General Montgomery was Honorary Surgeon to the King 1933-7, and was awarded the Companionship of the Bath (Military Division) at the time of his retirement from the I.M.S. His last appointment in India was that of D.D.M.S.

Col. CECIL CHARLES MURISON, I.M.S. (ret.), died at Wrington, Somerset, on Sept. 20, aged 68. He was born on Jan. 2, 1874, and was educated at the Edinburgh extramural school, taking the Scottish triple qualification in 1898. Later he took the certificate of the Royal Medico-Psychological Association, the D.P.H. of the Edinburgh Colleges in 1909, and the D.T.M. Liverpool and the F.R.C.S.Ed. in 1910. Entering the I.M.S. in 1900, he became lieut.-col. in 1910, col. in 1917, and retired in 1931. He served in East Africa, in Somaliland, in 1903-4 (medal with clasp); in the war of 1914-18, in France and Belgium, 1914-15, in Egypt, 1916, and in Iraq, 1916; on the North-West Frontier of India in 1917-21, in the Maksud campaign, 1917, and the Marri expedition, 1918; and was mentioned in dispatches in 1918. Later he served in India as A.D.M.S. and for a time as D.D.M.S. in the Eastern Command, India. He had been a member of the B.M.A. for 42 years.

Col. JAMES FULLER-GOOD, I.M.S.(ret.), died at Fleet, Hants, on Oct. 27, aged 68. He was born on Oct. 14, 1874, was educated at Queen's College, Cork, and graduated M.B., B.Ch., B.A.O. of the Royal University of Ireland in 1899. He entered the I.M.S. in 1900, became col. in 1928, and retired in 1931. He served in the war of 1914-18 and was mentioned in dispatches in 1916. For some years he was superintendent of the medical school at Rangoon and, as A.D.M.S., served in Waziristan. He had been a member of the B.M.A. since 1901.

Lieut.-Col. ALBERT COLEMAN, I.M.S. (ret.), died at Grenoble on Oct. 2. He was born on Dec. 20, 1862, and was educated at the University of Edinburgh, where he graduated M.B., C.M. in 1887. Entering the I.M.S. in 1887, he became lieut.-col. after twenty years' service, and retired in 1921. He served in Burma in 1887 (medal and clasp); in the Chin Lushai campaign of 1890 (clasp); and in the Manipur campaign of 1891 (clasp). He was appointed to civil employ in the Punjab in 1893 and spent the rest of his service in that Province, except that he reverted to military duty from Feb., 1916, to April, 1917.

Lieut.-Col. CHARLES ROSS PEARCE, I.M.S. (ret.), died at Bath on Nov. 19. He was born on June 24, 1868, the son of Stephen Pearce, artist, and was educated at the University of Edinburgh, where he graduated M.B., C.M. in 1892. He entered the I.M.S. in 1894, became lieut.-col. after 20 years' service, and retired in 1922. He was a member of the B.M.A. for 20 years.

Universities and Colleges

UNIVERSITY OF MANCHESTER

The following candidates have been approved at the examinations indicated:

FINAL M.B., CH.B.—Shirley G. Barrett (Mrs. Ashton), S. Falk, A. I. Goodman, S. Grace, R. Greenwood, H. Lempert, J. Whewell. *Part I:* J. R. Archibald, H. L. Brisk, J. Hinchliffe, S. B. Rampling.

UNIVERSITY OF DUBLIN

The Board of Trinity College, Dublin, has invited Prof. J. M. O'Connor, M.D., professor of physiology in University College, Dublin, to deliver the John Mallet Purser Lecture in 1943.

ROYAL COLLEGE OF SURGEONS OF ENGLAND

At an ordinary meeting of the Council held on December 10, with Sir Alfred Webb-Johnson, President, in the chair, it was decided that the voting papers for the 1943 Council election be sent by air mail to Fellows over-seas whose address is recorded at the College.

The Hallett Prize was not awarded on this occasion.

Diplomas of Fellowship were granted to the following candidates: R. A. Piachaud, N. F. Kirkman, S. C. Mehta, R. Roaf, J. P. Bentley, B. N. Brooke, W. Thompson, D. K. Sambrook, J. P. Childs, H. A. Haxton, D. K. Lennox. A diploma of Membership was granted to G. H. V. Clarke.

Diplomas in Anaesthetics were granted jointly with the Royal College of Physicians of London to the following candidates:

E. H. Ainslie, Evelyn J. Attkins, L. B. Bourne, A. Christie, P. J. De Vescovi, J. Elliott, G. A. Hart, J. A. G. Horton, Brenda G. Hutchinson, I. R. Jones, H. G. Kahlenberg, Isabelle G. Little, Florence M. McClelland, Margaret McClelland, T. F. Miles, Dorothy S. Price, E. N. Price, Shila G. Ransom, Alice C. Rose, J. B. Scarr, T. Sim, A. D. H. Simpson, Dorothy Spence-Sales, R. J. Stout, C. G. Townsend, J. T. Worsfold, Jean R. Young.

Medical Notes in Parliament

Venereal Disease and Regulation 33B

In the House of Lords on December 8 Lord WINSTER asked the Government what was their policy in relation to venereal disease. He said he understood that there had been already complaints from the American and Canadian Service chiefs, especially about London, and the matter was therefore of particular urgency to-day. We had a duty to those countries in this respect, and Regulation 33B showed that we were trying to do something.

Viscount DAWSON OF PENN said that in the 10 years before the war there was a satisfactory decrease in venereal disease, but since the war began there had been a reversal in the trend, and we were now in about the same position as in 1932. There had been an increase of 70% in the number of cases. The increases were chiefly in the ports. In 7 ports, comparing 1939 and 1941, there had been a rise in the figures from 942 to 1,909. There had been a steady increase in the treatments given to civilian women—45.9% in the case of syphilis and 29.3% in the case of gonorrhoea. That led to the reflection that we were not dealing with the same problem as our forefathers were, even in the last war. The women open to contract these diseases belonged to more classes than they used to do. The professional class, who gained their livelihood and must of necessity be promiscuous, were relatively decreasing. There was a second class, the so-called amateur, who got her own living, but who was irresponsible in temperament, and set out

to get pleasure from the men who attracted her, and profited by the amusements they gave her. In some respects this was the most dangerous class of all. A third class, which must not be altogether ignored, was that of girls of good repute who, no doubt, would in future become mothers, and who set up friendly relations which embraced sex relations. There was, he thought, an increasing number of venereal infections arising in these circumstances.

Treatment as an Infectious Disease

Lord DAWSON said he could not see how this illness could logically or sensibly be treated except under the Public Health Acts, in the same way as other infectious diseases. If that system could be applied to such diseases as typhoid why should it not be applied in the case of venereal disease? There were two sets of difficulties to be met. The first was in regard to notifications. Up to now, venereal diseases had not been notifiable, but that was purely a matter of tactics and expediency. He thought that people would be more frightened and more anxious lest they should be discovered. That was the opinion of most health authorities. The question of treatment was different. Apart from those who were afflicted and went to the clinic and carried out treatment, there was an irresponsible residue of persons—they were not vicious, they were feckless and lived for the day; in other words, they had the faults that brought them to grief—who would be responsible for multiple infections. That hard core of irresponsibles must be dealt with.

In his judgment Regulation 33B had been most carefully thought out and was the best in the circumstances. It was no longer an offence, as in the last war, to have intercourse with the opposite sex if one were infected, but it was an offence not to go for treatment, which was a purely personal question. There was this protection, that if the doctor as the head of the clinic got to know of the woman concerned from his men, and if suspicion fell on one or two women from more than one source, then the doctor would report this woman secretly to the medical officer of health, and it would be for the medical officer of health to take steps, with the permission of a justice or a court of summary jurisdiction, to secure compulsory treatment. He could not think that anything serious was likely to occur in such cases, and at any rate what might occur would be better than letting people spread disease in an irresponsible way.

Preserving Secrecy

Dealing with the matter of preserving secrecy, and preserving the belief of people in secrecy, Lord DAWSON said that that was one of his reasons for hesitating before compelling notification. He was afraid the effect on the ordinary layman's mind would be to make him think that notification would mean publicity. Since secrecy was promised some years ago in connexion with venereal disease, he believed there had been three occasions on which it had been thrust aside in a court of justice. It was worth while to consider soberly the general question of medical privilege which was here involved.

He thought Regulation 33B was a good advance, and was right and wise. It was a step from which they could go still further if necessary. He agreed that we required more centres, but the House should remember that the country was suffering from a very grave depletion of the medical profession at present—a far greater depletion than was ever anticipated when the war began. Efforts had been directed to increasing the numbers of these centres, but it was obvious that in wartime that could not be done so expeditiously as in time of peace. He was, however, quite confident that the best that could be done was being done.

Lord ATKIN said he sympathized with the criticism of Lord DAWSON about the compulsion on doctors in courts of law to disclose the treatment of a patient for venereal disease. To his mind, medical privilege, in circumstances of this kind, was a national necessity because people would avoid going to doctors if they knew that a doctor could be compelled in a court of law to disclose the information in his possession. He saw every reason for protecting the doctor in regard to communications in that respect.

Objections to the Regulation

Lord SNELL said the Government's policy was based on the principles laid down by the Royal Commission of 1913-16. That policy had reduced the incidence of the disease, but it had risen again during the war. The problem was increasing in gravity—but the measures to meet it were also growing. At present there were 249 clinics in Great Britain where free and confidential treatment was given. Eighteen of these had been opened since the war began; 5 were now being prepared and would shortly be opened; and there had been started a new scheme for rural areas providing for free treatment under special practitioners in the latter's own surgeries. There were 109 of these special practitioners serving 74 areas in 11 counties. Special attention was also being given to the Merchant Service at ports, because these men represented a very special need.

Regulation 33B had given rise to some controversy. There were two separate views in this matter. There were those who said the provisions of the Regulation were too weak and that it was bound to be ineffective because it did not go far enough. They pointed to the experience of Sweden, which had had compulsory notification for the last 25 years and which had a lower rate of incidence than we had. The view of the Ministry of Health was that this lower rate of incidence might not be the result of compulsion. Sweden had a population of 6,500,000—less than that of Greater London. Its population was scattered mostly over rural areas, and the country had a very highly developed sense of communal responsibility. Then there were those who opposed compulsion in any form. The argument was that women would be mainly subject to its operation and not men; that they would be deterred from undergoing early treatment since they would wait for compulsion to be applied; that a false sense of security would be created among those who indulged in promiscuous sexual intercourse because fear of infection acted as a deterrent; that the Regulation relied on an "informer" for its operation; and that an innocent person had no redress if thoughtlessly accused.

Compulsion under the Regulation extended only to a group of persons, small in number but responsible for much harm, who were impervious to methods of education and persuasion, and refused to attend voluntarily. He thought that the anxiety as to a false sense of security rested on a false idea about the clearance certificate itself. A doctor would be unlikely to issue this certificate until he was medically satisfied that it was safe to the community to do so. Then the certificate was not kept by the contact but was sent at once to the medical officer of health. There were heavy penalties for false information. The special practitioners must be satisfied that the information was medically likely to be accurate, and the medical officer of health must also be satisfied before he took action.

Referring to the suggested need for clinics to attract women for treatment, Lord SNELL said the Ministry believed that this suggestion was based largely on an exaggeration of the unwillingness of women to attend existing centres. Of the 199 treatment centres in England and Wales, about 75% were part of the out-patient departments of hospitals, where all kinds of conditions as well as venereal disease were treated, and were not labelled as venereal disease centres. Experience also suggested that it was the adequacy of the premises and of the treatment given rather than the labels attached to them that had most influence on attendance by women.

Reservation of Medical Students

During the third reading of the National Service Bill Mr. MAXTON asked what would be the machinery for deciding which young men were to be admitted into the medical profession. Previously they themselves had decided. Mr. MCCORQUODALE said students of medicine would be provisionally accepted by the medical schools. Then it would depend on the result of the Higher Certificate Examination, the First M.B., or the appropriate examination, whether the reservation would be finally confirmed. Therefore the medical schools would have the choosing of the students. Scientific students would be recommended for deferment by the Universities Joint Recruiting Boards. Arts courses at the universities would close down at the end of the summer of 1943 except for those boys who were medically unfit for service.

Medical Supplies and Services for Europe

Lord CRANBORNE, in the House of Lords on Dec. 9, replying to a debate on relief measures for Europe as soon as subjugated States were freed from Nazi control, said provisional estimates had been received from all the Allied Governments of their requirements of food during the first 18 months after the war. Most Allied countries had also submitted lists of their medical requirements. An advisory committee in regard to medical supplies had been set up under the chairmanship of Dr. Melville MacKenzie of the Ministry of Health. This medical subcommittee was working on the preparation of a minimum list of the most essential medical supplies and was considering the organization of medical services generally. A further expert subcommittee under Dr. Penrose of the United States Embassy was to advise on the nutritional aspects of food requirements. Steps must be taken beforehand to avert the risk of famine and the greater risk of pestilences bred of malnutrition. It was essential that there should be full co-operation with the Russian Government on these questions. Plans were being made on the assumption that some rationing control must continue for a period after the war. Preparations were being made.

No. 48

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended Dec. 5.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included). (b) London (administrative county). (c) Scotland. (d) Eire. (e) Northern Ireland.

Figures of Births and Deaths, and of Deaths recorded under each infectious disease, are for: (a) The 126 great towns in England and Wales (including London). (b) London (administrative county). (c) The 16 principal towns in Scotland. (d) The 13 principal towns in Eire. (e) The 10 principal towns in Northern Ireland.

A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1942					1941 (Corresponding Week)				
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)
Cerebrospinal fever	73	9	19	2	9	140	9	35	1	3
Deaths		1	—				4	4		
Diphtheria	1,011	42	234	84	33	1,047	48	355	45	32
Deaths	22	2	3	6	—	31	3	5	1	1
Dysentery	191	14	52	—	—	197	6	54	—	—
Deaths		—	—	—	—		—	—	—	—
Encephalitis lethargica, acute	3	—	2	—	—	3	—	—	—	—
Deaths		1	—				—	—		
Erysipelas		—	60	10	3		—	78	8	5
Deaths		—	—				—	—		
Infective enteritis or diarrhoea under 2 years				51						
Deaths	58	8	10	13	3	41	1	8	10	2
Measles	11,205	415	523	31	27	850	73	26	27	1
Deaths	15	1	2	1	—	—	—	—	2	—
Ophthalmia neonatorum	73	2	20	1	—	83	5	22	1	—
Deaths										
Paratyphoid fever	5	—	2	—		16	1	2	—	
Deaths	—	—	—	—	—	1	—		—	
Pneumonia, influenzal*	890	77	6	2	3	1,101	40	16	1	3
Deaths (from influenza)	33	6	1	—	—	37	4	4	—	2
Pneumonia, primary			185	30				243	18	
Deaths		—		11	11		34		11	8
Polio-encephalitis, acute	—	—				1	1			
Deaths		—					—			
Poliomyelitis, acute	11	1	—	18	—	15	—	1	3	—
Deaths		—	—				—	—		
Puerperal fever	—	1	18	—	—	—	—	18	—	—
Deaths		—					—			
Puerperal pyrexia	145	7	14	1	—	124	4	19	2	—
Deaths										
Relapsing fever	—	—			—	—	—			—
Deaths										
Scarlet fever	2,900	146	378	75	69	1,415	48	266	73	32
Deaths	3	—	1	—	—	1	—	—	—	—
Small-pox	—	—	2		—	—	—	—		—
Deaths			—	—	—	—	—	—	—	—
Typhoid fever†	4	1	2	6	—	7	—	1	8	2
Deaths	2	—	—	—	—		—		1	
Typhus fever	—	—	—	—	—	—	—	—	—	—
Deaths			—	—	—			—	—	—
Whooping-cough	1,195	60	38	79	9	1,959	207	58	38	5
Deaths	8	—	—	2	1	12	2	—	—	1
Deaths (0–1 year)	353	48	70	41	18	341	25	80	32	28
Infant mortality rate (per 1,000 live births)										
Deaths (excluding still-births)	4,816	742	662	226	116	4,407	599	651	189	113
Annual death rate (per 1,000 persons living)			14·9	15·1	‡			14·2	12·5	‡
Live births	5,767	691	822	365	246	§5,010	450	822	286	202
Annual rate per 1,000 persons living			17·0	24·4	‡			16·7	19·0	‡
Stillbirths	221	21	28			167	16	39		
Rate per 1,000 total births (including stillborn)			33					45		

* Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

† Includes paratyphoid A and B for Northern Ireland.

‡ Owing to evacuation schemes and other movements of population, birth and death rates for Northern Ireland are no longer available.

§ Figures incomplete for England and Wales.

EPIDEMIOLOGICAL NOTES

Discussion of Table

In *England and Wales* the notifications of scarlet fever and whooping-cough dropped by 70 and 68 respectively; the incidence of these diseases had been mounting steadily in the preceding weeks. Further large rises were reported in the incidence of measles, 556 cases, and acute pneumonia, 124 cases. The notifications of diphtheria, down by 140 in the preceding week, have now risen by 150.

Notifications of both scarlet fever and whooping-cough in Lancashire were, respectively, 105 and 43 fewer than in the previous week. There were 36 more cases of scarlet fever in Staffordshire and 76 more in Yorks West Riding.

The only substantial increases in diphtheria notifications occurred in Lancashire, 49, and in Wales, 36.

In contrast to the general trend the incidence of measles fell in Wales and Lancashire by 130 and 90 cases respectively. The largest increases were recorded in Durham 147, Yorks West Riding 118, London 108, Derbyshire 84, Warwickshire 71, Staffordshire 59, Gloucestershire 57, Surrey 56.

The cases of dysentery numbered 191, or 28 more than in the preceding week. There was a fresh outbreak of 13 cases in Herefordshire, Leominster and Wigmore R.D. There were increases in Kent from 2 to 18, in Essex from 6 to 15; and in Suffolk a new outbreak of 15 occurred. In the first two counties the cases were spread over several administrative areas; in the last county all the cases were reported from Clare U.D. There were 7 more cases in the outbreak in Derbyshire which began last week with 26 cases. In Yorks North Riding 10 further cases were notified (Middlesbrough C.B. 8). The same totals as in the preceding week were reported from London 14, Surrey 18, and Lancashire 32. The principal centres of infection during the week in these counties were Surrey, Banstead U.D. 15, and Lancashire, Liverpool C.B. 23.

In *Scotland* the large rise of 67 in the notifications of measles was the outstanding feature of the week's returns. The total for the two burghs in Fife rose from 95 to 143, and the three burghs of Renfrew from 69 to 121. In the Dundee outbreak there were 106 notifications, or 33 fewer. A case of small-pox has been reported from Lochaber, Inverness-shire.

In *Eire* poliomyelitis is back to the high level of the past three months; 18 cases were reported, or 13 more than in the preceding week: they were scattered over fourteen districts.

Quarterly Returns of the Registrar-General for Scotland

For the September quarter the birth rate was 17.9 per 1,000, and, with one exception, was the highest recorded for any third quarter during the past ten years. The infant mortality was 59 per 1,000 live births, or 4 below that for the corresponding quarter of 1941 and the same as the average of the five preceding years. Stillbirths were 36 per 1,000, and the lowest rate recorded since registration of stillbirths was instituted in 1939. The general death rate of 10.9 per 1,000 was the lowest for any quarter since the outbreak of war and 0.2 below the five-years average. The death rate from the principal epidemic diseases was 14 per 100,000, and the lowest on record for Scotland with the single exception of the third quarter of 1939, which was 13. The average death rate from epidemic diseases for the third quarter is 21. Six deaths from small-pox, the first since 1930, when there were 2, were registered during this quarter. The death rate from all forms of tuberculosis was 70 per 100,000 and that from respiratory tuberculosis 52. The former rate was 2 below that of the corresponding quarter of 1941 and the latter was the same; they were respectively 5 and 4 above the average of the third quarters of 1937-41.

Quarterly Returns for Eire

The birth rate during the third quarter was 23.9 per 1,000, or 3.8 above that for the corresponding quarter of 1941; with the exception of the second quarter of 1942, when it was 24.5, it was the highest of recent years. Infant mortality was 57 per 1,000 registered births, 7 below the rate of the September quarter of 1941 but 1 above the average of the third quarters of the preceding five years. The general death rate was 11.5 per 1,000; this rate has been fairly constant in the recent September quarters and has only varied between 11.4 and 11.7 during 1937-42. The death rate from pulmonary tuberculosis was 1.1 per 1,000, an increase of 0.2 in the rate for the corresponding quarter of 1941 and equalling the highest rate for this quarter during 1937-42. An increase in pulmonary tuberculosis was also recorded in the first and second quarters of this year. Other forms of tuberculosis yielded a rate of 0.2 per 1,000, which was the rate in the September quarter of 1941.

Returns for the Week Ending December 12

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 2,769, whooping-cough 1,326, diphtheria 1,079, measles 13,287, pneumonia 989, cerebro-spinal fever 75, acute poliomyelitis 7, dysentery 133, para-typhoid 7, typhoid 10, small-pox 1.

Medical News

Sir John C. G. Ledingham, F.R.S., is to retire on March 31, 1943, from the post of Director of the Lister Institute of Preventive Medicine, which he has held since 1930. The Governing Body of the Institute have appointed as Sir John Ledingham's successor Dr. A. N. Drury, F.R.S., Huddersfield Lecturer in Special Pathology, University of Cambridge, and a member of the scientific staff of the Medical Research Council.

Electromedical apparatus cannot be supplied to institutions or individuals without licence from the Board of Trade on the surrender of a medical certificate. The latest Order on this subject, the Machinery, Plant, and Appliances (Control) (No. 3) Order, 1942, which replaces and amends all previous ones, can be obtained from the Stationery Office or through any bookseller.

With the issue of November, 1942, the publication of the *Annals of Medical History* was suspended.

The late Mr. J. A. Fielden, who during his lifetime made large gifts to the London Hospital, has bequeathed to it the sum of £105,000 free of duty.

A company to be known as the Anglo-Iranian Pharmaceutical Company, Ltd. (the A.I.P.), has been formed in this country by a group of five leading manufacturers of medicinal products in order to facilitate the supply to Iran of pharmaceutical products made in the United Kingdom. A private limited liability company with an authorized capital of £50,000 has been registered, the constituent members being: Boots Pure Drug Company Ltd., British Drug Houses Ltd., Evans Sons Lescher and Webb Ltd., Glaxo Laboratories Ltd., the Wellcome Foundation Ltd. The registered office of the A.I.P. is at Tavistock House South, Tavistock Square, London, W.C.1. All communications should be addressed to the secretary, Mr. W. J. Williams.

VENEREAL DISEASES AS A CAUSE OF DEATH

According to Gottschalk (*Dtsch. med. Wschr.*, 1942, **68**, 845) the official statistics of causes of death so far as syphilis is concerned cannot be complete, for in many cases the true cause of death can be ascertained only by necropsy. As to the degree of reliability, a valuable indication is offered by the "Combined Statistics of Causes of Death in Magdeburg" for the years 1928–36, as follows:

Syphilitic Causes of Death	Deaths according to Clinical Findings (a)	Results of Necropsy			
		Incorrect Clinical Diagnosis (b)	Diagnosis Confirmed (c)	Additional Cases Discovered (d)	Total Cases (c + d)
Syphilis	194	59 (30%)	135 (70%)	117	252
Progressive paralysis	93	34 (37%)	59 (63%)	23	82
Tabes dorsalis ..	27	10 (37%)	17 (63%)	27	44
Aneury m ..	8	5 (63%)	3 (37%)	25	28
Total ..	322	108 (34%)	214 (66%)	192	406

The investigation covers 8,182 cases, in which both the clinical diagnosis of cause of death and the post-mortem finding were available. The classification adopted was that introduced in 1932, and syphilitic aneurysm was reckoned as an independent cause of death in the group of venereal diseases. Of the 8,182 cases 322, or 3.9%, were recorded as due to syphilis. Necropsy showed that 108 of these (34%) should have been classified under another number in the list. In 214 of the 322 cases (66%) the clinical diagnosis was confirmed. However, an additional 192 cases were found post mortem to have a syphilitic cause of death, so that the total number was increased to 406, or 5% of the total. Although these statistics concern almost exclusively diagnosis made in clinics, necropsy revealed 26% more cases of syphilitic causes of death than was shown by clinical findings. Paralysis as a cause of death was found more rarely post mortem than by clinical diagnosis. Necropsy showed 23% more cases of syphilis, 63% more cases of tabes dorsalis, and as much as 250% more cases of aneurysm.

Letters, Notes, and Answers

All communications in regard to editorial business should be addressed to THE EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1.

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B.M.A. SCOTTISH OFFICE: 7, Drumsheugh Gardens, Edinburgh.

QUERIES AND ANSWERS

Treatment for Scalp Eruption

E. M. T. writes: In reply to J. A. M. (Nov. 28, p. 654): For years I have been a sufferer from psoriasis of the scalp, and often develop thick hard crusts. I recommend the following treatment, which I learnt from the *B.M.J.* years ago, and find astonishingly effective. Wash the whole scalp thoroughly with simple soap and water; rinse; then wash it with a good lather of soap spirit in warm water. The crusts are softened and can be easily and carefully removed with the comb. Then while the scalp is still damp apply sphagnol ointment. This treatment should be repeated every few days if necessary. The ointment stains.

W. H. writes: Has J. A. M. tried sulph. praecip. gr. 13; ac. salicyl. gr. 13; ol. coc. nucif. ʒiv; paraffin. moll. ad ʒj?

Dressing for Cancer of Breast

Dr. G. BAYNTON FORGE writes: In reply to "Deodar" (Nov. 28, p. 654) I have found hydrogen peroxide a certain and quick remedy for this troublesome symptom. I have used it on 3 cases where operation was refused and always with most gratifying results.

Income Tax

Allowance for Domestic Staff

W. K. keeps two maids, of whom one lives in and the other attends from 8 a.m. to 7 p.m. Of the six living-rooms four are used for patients and a fifth is so used occasionally. The maids receive £140 per annum. W. K. is allowed a deduction of one-third of his rent and rates, which presumably covers the use of a garage, and £104 in respect of the cost of domestic service of the professional part of the premises.

*** In view of the large proportion of the ground floor which is used for professional purposes the ratio of one-third seems low, when it is remembered that the ground floor is the most valuable part of the whole premises. As regards the cost of service the inspector of taxes will no doubt contend that the effect of food rationing has to be taken into account as well as the higher cost of the food which is obtainable. But this is a question which must be decided on the actual facts of each case. We suggest that a reasonable basis would be one-half of the total domestic cost, and perhaps W. K. can calculate that figure approximately and compare it with the £104 hitherto allowed.

Deduction for Use of Residence

E. R. has hitherto been allowed to deduct one-half of the cost of rates, insurance, maid, gardener, lighting, heating, and repairs. The inspector of taxes now wishes to reduce the deduction to one-third of the costs. The house contains waiting-room, consulting-room, dispensary, lounge, and lavatory used wholly or partly for the practice, and one room downstairs, three bedrooms and a box-room used privately.

*** There is no fixed rule with regard to these deductions; the proper ratio clearly depends on the facts of each individual case. Sometimes a useful light is thrown on the question by looking at the other side of it—i.e., what is the practitioner getting for private use and what would be a fair measure of its cost. On the individual items, one-half seems *prima facie* excessive as applied to gardener's wages and the cost of heating and lighting. So far as our experience goes one-half of the general expenses is not usually allowed except where there is some special element—e.g., high rates on account of central position in a large town. Possibly E. R. can negotiate some intermediate ratio—e.g., 40%. We should not advise prosecuting a claim to 50% to the point of a personal appeal.

House Let to Government—Liability

T. H. has let his house for £175—some of his furniture is still stored in it. The Schedule A assessment is £76, and he has now received a demand for tax on £66 10s. "excess rent." Is this correct? Can he deduct fire insurance on the house and £1 11s. 6d. on the furniture?

*** The £66 10s. is correct. The liability arises under the Finance Act, 1940, and is calculated as under:

	£	s.	d.
Amount of rent	175	0	0
Deduct allowance for maintenance, etc.	32	10	0
	142	10	0
Less already assessed under Schedule A	76	0	0
"Excess rent"	£66	10	0

The fire insurance on the house is regarded as included in the scale allowance of £32 10s.; the £1 11s. 6d. in respect of the furniture is a private expense and cannot be treated as a deduction for income tax.

Income from Malaya

"APA MAU" came to this country a few years ago. Most of his capital is invested in Malaya. The income tax authorities ask for a statement of income credited to him there in the year 1941–2. What is the legal basis of liability for assessment in respect of this source of income for 1942–3?

*** In law the income is assessable for 1942–3 on the basis of the amount of income arising in the year 1941–2, but inspectors of taxes have been authorized to arrange, in such cases as this, for tax to be accepted on the amount (if any) of income actually received in the year 1942–3; the balance of the tax assessed will remain in abeyance until it becomes clear as to what amount of the unremitted income will be receivable in this country.

Temporary Cessation of Work

C. J. S. was employed in the E.M.S. since the beginning of August, 1941. He became a hospital patient in August, 1942, but was paid by the E.M.S. for the three following months. During the year ended April 5, 1942, he earned £325 and his wife £85. After deducting the allowances due to him he has been charged tax amounting to £35 14s. 6d. He is now doing part-time work and will earn about £120 for the current year. He inquires: (i) Can he average the two years for purposes of assessment? (ii) When can he "be forced to pay last year's tax"? and (iii) What is he advised to do?

*** (i) No; he ceased his employment and is in any case liable on the current year's basis for 1941-2 and 1942-3. (ii) and (iii) Legally the revenue authorities can take action against him at any time. It is, however, certain that they would regard his case sympathetically, and we advise him to write to the collector, explaining the circumstances fully, and, if possible, making an offer to pay something on account.

Honorary Surgeon to Hospital under E.M.S. Scheme

"Gamma" has been honorary surgeon to a hospital for many years. The hospital is now under the E.M.S. scheme and the staff is paid 1s. 6d. per bed per night for the military cases He does not wish to receive this money and inquires as to his income-tax liability.

*** If "Gamma" receives a share of the War Office payment he is liable to assessment on it, even if he hands it back to the hospital—he is merely disposing voluntarily of taxable income—and the same result would probably follow if he were to ask the hospital authorities to retain his share for their general purposes. His best course is to notify them that he desires to continue to act in a voluntary capacity and to be regarded as not entitled to any share in the payment in question.

LETTERS, NOTES, ETC.

Codeine in Vaccinia

Dr. S. WARSZAWSKI writes: With reference to Lieut. H. A. Oatley's letter on codeine in vaccinia (Sept. 26, p. 384) I would offer my confirmation of the facts advanced by him. After the collapse of France in 1940–1, when I was an inmate of a prison camp in Spain and acting as M.O. of the camp and later on as M.O. of the Polish Red Cross in Spain, I vaccinated or supervised the vaccination of many thousands of people, and I noted also the remarkable effects of the association of the drugs combined in the tab. cod. co. of the *National War Formulary*, 1941. Our formula was: acetylsalicylic acid, phenacetin āā 0.25 g., codeine phosphate 1/100 g. I used also other formulae, replacing the cod. phosph. by caffeine or codeine. There is no doubt that the results were not so good as with cod. phosph. I think, therefore, that it is not the codeine but the phosphate of codeine which matters. I think, too, that this is a point which is worth investigation, and also the determination of the optimum dose of cod. phosph. I have been using the Continental formula given above now for many years, and I have always found that it is a very useful antithermic, analgesic, and anticatarrhal compound.

Treatment of Anxiety States in Panel Practice

Dr. MARGUERITE STEWART (London, S.W.4) writes: From time to time communications in the *Journal* draw attention to the invalidism from the Army due to chronic and acute anxiety states. It is the early stages of anxiety before physical symptoms are firmly rooted that general practitioners should recognize and adequately deal with. This at present it is increasingly difficult to do owing to pressure of work. But in planning for the future let this side of practitioner treatment be made possible. Our panel system was formed before 1914 at a time when illness was treated on a physical level. Since then, increasingly, it has become apparent that much illness is psychological in origin, and that most illness has in it a psychological factor. To treat such illness requires more time and outgiving per patient than is possible under the present panel system. Recently, with a panel less than one-tenth the permissible number, I saw 17 panel patients on one day. The preventive treatment of anxiety states is one of the most interesting privileges of general practice. It can only be tackled adequately in a practice where numbers are limited, and practitioners have had the opportunity for training in the detection and treatment of this kind of work.

MEDICINE 100 YEARS AGO

Extract from a leader on rumours in the "political press" that "the poor law commissioners have recently dismissed all those who held Scotch or Irish diplomas from their offices under them as unqualified," from the *Provincial Medical Journal* of Dec. 31, 1842:

"The qualifications for union medical officers admitted by the poor-law commissioners are of four kinds. We shall recite them here, as several of our friends in the country seem to have forgotten that we published them many months since. (1) A diploma from the Royal College of Surgeons, together with a degree in medicine from an English university, or the London College of Physicians. (2) A diploma from the London College of Surgeons, with a certificate from the London Apothecaries' Hall. (3) A diploma from the London College of Surgeons, and a right to practise as an apothecary acquired by the person having been in practice as an apothecary before August 1, 1816. (4) A commission as surgeon, or assistant-surgeon, in Her Majesty's navy, or as surgeon, assistant-surgeon, or apothecary, in the army; or as surgeon, or assistant-surgeon, in the East India Company's Service, dated previous to August 1, 1826.

"To those who are not familiar with the numerous questions agitated during the discussion of poor-law medical relief, or the actual state of the laws which affect the medical profession generally, the above cited regulations of the poor-law commissioners may appear complex and unsatisfactory; but a few remarks will serve to explain the motives which led to their adoption. In the first place, the necessity of a double qualification for union officers—of a license to practise both surgery and medicine—had long been urged on the commissioners; and to this they at length acceded. In the second place, the 109th section of the Poor-law Acts requires that the medical officer should be 'a person duly licensed to practise as a medical man.' The question then at once occurs, who is duly licensed to practise as a medical man within the precincts of England and Wales? Upon this point great ignorance prevails amongst the members of the profession; for the exclusive privileges of the corporate bodies extend further than even they themselves seem to be aware. The College of Surgeons in London have the exclusive right of licensing persons to practise surgery throughout England and Wales. The right to practise medicine may be conferred by the College of Physicians, the Universities of Oxford and Cambridge, and the Apothecaries' Hall. In addition to the privilege of conferring licences to practise medicine, these corporations enjoy the power of prohibiting all who are not of their body, from practising medicine within their territorial jurisdictions. The statutes of 3 Hen. VIII., c. 11, and 14 Hen. VIII., c. 5, exclude every person from practising physic anywhere in England or Wales, unless he be a graduate of Oxford or Cambridge, or admitted to practise by the London College of Physicians. The charter of Car. I., confirmed by the 18th Geo. II., c. 15, prohibits every one from acting as an apothecary in England and Wales, who has not a certificate from the Apothecaries' Company, with the exception of those in practice as apothecaries previous to 1815, and the army and navy surgeons of 1826, who are privileged by a particular act which expired on the 1st of August, 1826."